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The visual communication section of the Proceedings contains the following 8 papers: "Constructing Meaning from Visual Images in Local Television Crime News" (Claudette Guzan Artwick); "Comparative Performance of the Pie and the Bar" (Prabu David); "Job Satisfaction among Photojournalists past 40: A National Survey Looks at 'The Lifers'" (John Freeman); "Piecing Together the AIDS Quilt Story: A Micro-Analysis of the Interaction of Television News' Visual and Verbal Texts" (Steven Konick); "The Burden of Visual Truth: The Role of Photojournalism in Mediating Reality" (Julianne H. Newton); "The Health of Photojournalism and Visual Communication Education in the Nineties: Cause for Concern or a Bright Future?" (C. Zoe Smith and Andrew Mendelson); "Design Variations Within and Among Newspaper Chains" (Sandra H. Utt and Steve Pasternack); and "Public Perceptions of Photographic Credibility in the Age of Digital Manipulation" (Tom Wheeler). (CR)

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Constructing Meaning from Visual Images in Local Television Crime News

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Constructing Meaning from Visual Images in Local Television Crime News

Images of violence and crime reach millions of people watching local television news. And many of those viewers perceive a link between the violence shown on the news and people's fear of crime. A recent national study showed that eight out of ten people surveyed said that stories about violence have made Americans more fearful than they were in the days before television (**Times Mirror**, 1993). Research supports the public perception, showing positive relationships between television news viewing and fear of crime (Perse, 1990; O'Keefe & Reid-Nash, 1987; O'Keefe, 1984; Tamborini, Zillmann, & Bryant, 1984). However, the process by which news viewing contributes to concern about crime is not fully understood. And the role of **visuals** in that process is unclear.

This study explores that role by examining the meanings viewers construct from visual images in local television crime news. Cultivation research lays the foundation for this study with its assertion that heavier television viewers are more likely than lighter viewers to perceive the world as it is depicted on television. Differences in the meanings heavier and lighter viewers discern from crime news visuals are explained through semiotics and by identifying visual interpretations that "focus on crime."

Theoretical Framework

Cultivation research examines the content of television programming and its relationship to people's conception of the world--their social reality. General findings assert that people who watch large amounts of television are more likely than light viewers to perceive the world as it is depicted on television; often, a "mean and dangerous world"

(Signorielli, 1990). While many studies support the existence of the relationship (see Signorielli & Morgan, 1990, for a review of cultivation analysis), the processes by which this relationship functions are unclear. Cultivation researchers have been challenged to identify these processes (Hawkins & Pingree, 1990).

Learning from Television

The ways in which we learn from television may provide greater understanding of the cultivation process and its relationship to concern about crime. Early cultivation researchers held the view that cultivation is an incidental learning process, occurring unintentionally without motivation to learn (Perse, 1990). However, a more theoretically grounded approach to learning may be found in the cognitive psychological literature. An important distinction to be considered regarding learning concerns remembering and understanding information as different cognitive processes (Ortony, 1978). In a review of literature on learning from television news, Woodall, Davis and Sahin (1983), criticize measures of learning, questioning whether researchers measured viewers' memory or understanding of television news events, or both. They argue for the importance of clarifying this, asserting that separate types of memory may be related to each mode of learning; episodic, for storing and retrieving information, and semantic, for understanding. Cultivation analysis may benefit from considering these processes. Within episodic memory, individual differences in cognitive visual processing skills may influence what a viewer does with television information (Salomon, 1972; Salomon & Cohen, 1977).

Semantic memory differences between heavy and light viewers may also play a role in cultivation. This form of memory may be considered a network of interrelated words,

concepts, and properties (Quillan, 1968; Collins & Loftus, 1975), or in other words, pre-existing knowledge. An interaction between that knowledge and incoming information would lead to understanding (Woodall, et al., 1983). This focus on understanding makes the semantic memory pertinent to the present study. Assuming a heavy viewer's pre-existing knowledge were gained from watching television, those semantic memory stores would be used to help process incoming information. Crime news could be combined with stores form previous news and entertainment violence, contributing to that person's concern about crime.

Examining the meanings people construct from visuals is a critical step toward understanding the process by which viewing crime news can lead to fear of crime.

Meaning

In the conventional sense, meaning pertains to verbal messages, with a heavy emphasis on the sender of the message, as Kaplan's (1964, p. 68) definition illustrates, "Meaning is a process, a succession of acts of speech in which utterances are used to fulfill purposes." Early cultivation research centered on television as a symbolic system that serves to extend and maintain conventional conceptions, beliefs, and behaviors (Gerbner and Gross, 1976, p. 175). The perspective assumes a direct effect, wherein television symbols represent and convey shared meaning.

However, the viewer's cognitions of those symbols may not mirror the intended significance of the symbolic television content. Therefore, when considering meaning as it relates to the cultivation process, the message receiver should be of interest. White (cited in Brookfield, 1986) criticizes the linearity of the direct effects model, asserting that to consider viewers as "acted-upon" insults and ignores the critical awareness and proactive nature of the

audience. The present study recognizes the cognitive ability of television viewers. Meaning is therefore concerned with viewers' cognitions of television's symbolic visual content.

Semiotics, Television Visuals, and Meaning.

Semiotics, or simply defined, "the science of signs" (Fiske & Hartley, 1978, p. 37), has been applied successfully in critical analyses of television. Its study of the relationship between signs and their meanings is most relevant to the present research. Readily applicable to the visual image are semiotics' three orders of signification, a method of assessing meanings related to signs. In the first order of signification the sign represents what it depicts at the most basic level. A visual of a car, for example, would represent the vehicle itself, the thing. In the second order, cultural knowledge or experience is used in constructing meaning. A car would perhaps signify freedom. The third order of signification is based on cultural knowledge as well, but is more global. It exhibits a cultural picture of the world. A car in the third order could signify industrialism or materialism (Fiske & Hartley, 1978).

While a gifted semiotician may analyze visuals using these categories of signification, the work may be limited to that individual's interpretation of the images. Assessing meanings viewers construct from visuals using semiotics' three orders of signification would provide a more useful approach to understanding the relationship among visuals, meaning, and concern about crime.

Semiotics' orders of signification may provide an explanation for some differences in cultivation research findings that have led to recent criticism. The criticism basically points to a weakness in conceptualizing cultivation, arguing that instead of one type of cultivation, there are two (Potter, 1993). The distinction separates cultivation of facts (first-order

measures) from cultivation of beliefs (second-order measures).

The differing measures of cultivation appear to fit the various orders of semiotics' signification. First-order signs seem to relate to what cultivation analysts have termed first-order measures, or facts. Second- and third-order signs appear to fit the second-order measures--beliefs. This study is concerned with the cultivation of beliefs, or second order measures, and second-order signification, meaning derived from cultural knowledge.

Barthes (1985, pp. 16-17) recognized the role of knowledge in signification, specifically, when interpreting a visual image. He explains that reading a photograph "... depends on the reader's 'knowledge,' just as if this were a matter of a real language, intelligible only if one has learned its signs." Barthes wrote of reading a still photograph, but his ideas may be applied to the moving image as well. In addition, however, myriad contributions to the process of meaning construction from television must also be considered.

The process by which meanings are constructed from television is recognizably more complex than that from written or spoken language, or static pictorial symbols. Text, voice, music, and sound effects may also be considered in semiotic analysis (Metz, 1976). Because of our history as a verbal culture, scholars have argued, the spoken language provides the definitive meaning for the image (Barthes, 1977, cited in Seiter, 1987). In film and broadcast media, much of that verbal information lies in the audio track. The soundtrack as a whole may govern the image, in effect, calling viewers' attention to the screen (Altman, 1984). In fact, audio information appears to dominate audience understanding of audiovisual presentations (Crigler, Just, & Neuman, 1994).

Another view (Graber, 1990) considers audio and visual cues together in discerning meaning. However, this gestalt approach also relies on verbal elements to guide the overall significance of the message. A third perspective recognizes that visuals, themselves, convey meaning. A study of viewer reaction to television news stories (Graber, 1991, p. 10), found that pictures "...provided important insights into the situation that were not supplied by the verbal portions of the story." And in the industry, television news searches for pictures that have "instant meaning" (Epstein, 1973, p. 242). Semiotics in film and television analysis often focuses on the images alone (Fiske & Hartley, 1978; Ellis, 1982). However, considering the mixed viewpoints on the potential impact of audio in visual meaning, that role also deserves to be assessed.

Hypotheses

Cultivation argues that the assumptions, beliefs, and values of heavy viewers differ systematically from those of light viewers (Gerber, Gross, Morgan, & Signorielli, 1986). This fits well with the tenets of semiotics, in which television uses a constructed semiotic system to communicate culturally agreed, conventional meanings (Fiske & Hartley, 1978). It follows that the meanings heavier viewers assign to visuals should more closely match television reality than do the lighter viewers' meanings. It further follows that heavier viewers would discern meanings that focus on crime. Heavier viewers may also construct more second-order meanings than lighter viewers, drawing from their semantic memory stores of pre-existing cultural knowledge gained from television. Also to be considered here is the notion that the spoken language may provide the definitive meaning for the image (Barthes, 1977, cited in

Seiter, 1987), versus the perspective that visuals themselves convey meaning (Graber, 1991; and Epstein, 1973).

The hypotheses test differences in visual meaning construction between heavier and lighter local news viewers, and assess the impact of audio of those meanings. The study emphasizes local news over national news for the following reasons. Local news programs are heavily watched (Comstock, Chaffee, Katzman, McCombs, & Roberts, 1978). People identify with local news over network news (Wilson, 1993). And because local programs originate close to home, their images may help "...shape the audience's emotional and cognitive responses to community conditions in a way that national news cannot" (Entman, 1992).

H1 Heavier local news viewers focus on crime more often than do lighter viewers when constructing meaning from local crime news visuals.

H2 Heavier local news viewers construct second-order semiotic meanings from local crime news visuals more often than do lighter local news viewers.

H3 When given no audio context, heavier local news viewers focus on crime more often than do lighter viewers when constructing meaning from local crime news visuals.

H4 When given no audio context, heavier local news viewers construct second-order semiotic meanings from local crime news visuals more often than do lighter local news viewers.

Methods

An experiment was used to test the hypotheses. During August of 1993, 118 students from six undergraduate social science classes were assigned to three treatment groups. Each

group was provided a different level of visual context before being asked to perform a visual meaning task. Group 1 (audiovisual context) watched a 7-minute crime news videotape; group 2 (visual context) watched the same tape without the sound; and group 3 (no context) saw no crime stories. For the visual meaning task, all subjects watched another videotape containing 14 still video frames from the crime news tape. Each group then approached the task possessing a different level of crime news context. After each visual, subjects were asked to write down "what comes to mind when you see this picture."

Shots appeared on the screen for 10 seconds with a 15-second pause between each. The no-context group's video also included six generic shots at the head of the tape to help balance the visuals in terms of crime and non-crime shots, hence, avoiding the creation of a crime context. Selection of stories and shots used on the tapes was based on a content analysis of two weeks' of local newscasts from six U.S. markets (Artwick, 1994). The decision to include seven minutes of crime news was made based on the approximate length of an opening television news segment. It was also guided by a general rule-of-thumb in video production that limits the length of informational videotapes to about seven minutes.

The stories in the crime news tape focused on: 1) a suspected murder of a young woman whose body was found in a rural river; 2) a convenience store robbery; 3) transit crime; 4) three urban murders; 5) a reported rape in a woman's rural home; 6) a murder of an elderly woman in her hi-rise apartment; and 7) a drug arrest.

The instrument subjects used to record meanings also included questions to measure television exposure and subject demographics. Subjects completed the questionnaire after the visual meaning task.

Measures

Local Crime News Visual

Stories about crime committed within a 50-mile radius of the city in which the television station broadcasts, are considered local crime news. The measure is based on Gordon and Artwick's (1993) local news measures. While subjects did not view visuals from their own broadcast markets, the visuals used were from local newscasts--a news genre distinct from network newscasts.

The visual is comprised of a single shot within a story. A shot is the single, continuous recording of material in a news story separated by an edit. The definition of shot is based on Shook (1989).

Meaning

A subject's response to the question, "What comes to mind when you see this picture?" after viewing a local crime news visual. The wording is based on a question used in a study of the cognitive aspects of agenda setting (Carter, Stamm, & Heintz-Knowles, 1992), wherein subjects were asked to give the "first word that comes to mind" for each of a list of topics.

Focus on Crime. A response was considered to focus on crime if it made any mention of crime, suspicion, victim, violence, or protection. A coding reliability check on ten percent of responses, conducted by an adult professional with some college yielded a 91 percent agreement.

Semiotic Meaning. Semiotic meaning for this study is based on the three orders of signification discussed by Fiske and Hartley (1978). In the first-order sign, the picture of the

thing represents the thing itself. For example, a visual of a car would be considered nothing more than a car. Cultural experience is involved in the second-order sign, and in the third order, the sign represents a larger context or world view.

To clarify these distinctions, consider semiotic meanings for a picture of a police car parked outside a boarded building at night. The first-order semiotic meaning would be basically what was just described, focusing on the elements of the picture. The second-order meaning would be constructed based on cultural experience, for example, "police probably investigating a complaint." It could also include more abstract meanings, such as, "apartment where a woman was murdered." The third-order meaning would take more of a world view, for example, focusing on a societal problem, such as "inner-city crime."

A coding reliability check on 10 percent of responses, conducted by an adult professional with some college, yielded an 80 percent agreement.

Local Television News Exposure

Number of hours per week a subject watches local television news. Because of the nature of the hypotheses, it was necessary to recode the continuous exposure variables into lighter and heavier viewing. This was done by making as close to an even split in frequency distribution, based on percent of respondents. This approach was based on Signorielli (1990, p. 103), who explains that cultivation analysis focuses on "...the relative degree of television viewing rather than the exact or specific number of hours..." Lighter viewers watched 0-2 hours of local news per week, while heavier viewers watched 2.5-15 hours per week.

Results

The first hypothesis predicted that heavier local news viewers would focus on crime more often than lighter viewers in the meanings they constructed from crime news visuals. The heavier viewers did focus on crime in a significantly greater number of meanings than did the lighter viewers, supporting the hypothesis. As Table 1 illustrates, when asked "What comes to mind when you see this picture?" the heavier viewers focused on crime in their responses to 8.7 of 14 visuals. Lighter viewers did so for only 7.3 pictures.

Table 1. T-Test: Focus on Crime and Local News Exposure

Exposure Level	# of Cases	Mean (of 14 possible)	SD
Lighter	72	7.29	3.12
Heavier	46	8.65	3.21

df=94, 2-tailed t=-2.27, $p \leq .05$, unequal variances

The second hypothesis predicted that heavier local news viewers would construct more second-order semiotic meanings from crime news visuals than would lighter viewers. As Table 2 illustrates, the difference in the number of second-order semiotic meanings between lighter and heavier local news viewers is significant. This finding supports the hypothesis.

Table 2. T-Test: Second-order Semiotic Meanings and Local News Exposure

Exposure Level	# of Cases	Mean (of 14 possible)	SD
Lighter	72	10.57	2.06
Heavier	46	11.43	1.79

df=116, 2-tailed t=-2.34, $p \leq .05$, unequal variances

The third hypothesis predicted that H1 would hold even when subjects were given no audio context, testing the notion that visuals convey their own meanings regardless of audio information. That is, heavier local news viewers would focus on crime more often than lighter viewers in meanings derived from crime news visuals, even when given no audio context. No significant differences were found between heavier and lighter local news viewers in any of the treatment groups. However, an examination of specific visuals did reveal some significant differences. Table 3 shows that heavier local news viewers in the no context treatment focused on crime more often than lighter viewers in their meanings of a shot featuring a robbery suspect on surveillance video (see visual in Appendix 1). Further tests using news viewing as the exposure measure (versus **local** news viewing used in original hypothesis tests), showed similar results for a visual featuring a police car at night, as shown in Table 4 (see visual in Appendix 2). And, as Table 5 illustrates, a significantly greater number of heavier than lighter news viewers in the visual context treatment focused on crime in their meanings of a chalk body outline (see visual in Appendix 3). Finally, as Table 6 shows, lighter news and local news viewers focused on crime more often than heavier viewers in their meanings of an urban hi-rise building (see visual in Appendix 4). These findings partly support the hypothesis.

Table 3. Percent of Responses that Focus on Crime for Heavier and Lighter Local News Viewers by Treatment Group

Robbery Suspect Surveillance Video

Treatment Group	Exposure Level L	H
View & Hear	96	96
View Only	84	95
No View*	38	73

*Chi Square=3.87, df=1, $p \leq .05$

Table 4. Percent of Responses that Focus on Crime for Heavier and Lighter News Viewers by Treatment Group

Police Car at Night

Treatment Group	Exposure Level L	H
View & Hear	78	82
View Only	64	83
No View*	48	81

*Chi Square=4.42, df=1, $p \leq .05$

Table 5. Percent of Responses that Focus on Crime for Heavier and Lighter News Viewers by Treatment Group

Chalk Body Outline

Treatment Group	Exposure Level L	H
View & Hear	80	82
View Only*	50	83
No View	58	63

*Chi Square=4.07, df=1, $p \leq .05$

Table 6. Percent of Responses that Focus on Crime for Heavier and Lighter Viewers by Treatment Group

Urban Hi-Rise

Type of Exposure	Treatment Group	Exposure Level L	H
News	View & Hear	73	68
	View Only*	46	11
	No View	04	13
Local News	View & Hear	77	64
	View Only**	39	07
	No View	04	18

*Chi Square=4.84, df=1, $p \leq .05$
**Chi Square=3.84, df=1, $p \leq .05$

The fourth hypothesis predicted that H2 would hold, even when subjects were given no audio context. That is, heavier local news viewers would construct second-order semiotic meanings more often than lighter viewers, when given no audio context. No significant differences between heavier and lighter viewers in any of the treatments were found. The hypothesis was not supported.

Discussion and Conclusions

The most significant findings of this study reveal differences in the meanings heavier and lighter news viewers construct from local crime news visuals. The heavier viewers more often focus on crime in their meanings of these visuals. They also construct more second-order semiotic meanings, exhibiting a reliance on cultural knowledge in their interpretations of local crime news visuals. Audio appears to play a role in constructing visual meaning; however, its function varies based on type of visual. Even when given no audio context, heavier news viewers constructed meanings that focused on crime for visuals that most closely symbolized crime--such as a chalk body outline, a police car at night, and a robbery

suspect's face on surveillance video. The lighter viewers did so at a significantly lower rate.

Heavier news viewers' meaning stores of crime information, as well as their experience with the news program format and presentation may make a difference in the way they assign meanings to visuals. For example, take a scene of police in the street at night. Heavier news viewers may have seen this type of visual many times before, connected with perhaps a murder or drug story. That store of audio and visual information based on past news viewing may have provided the cultural knowledge used to assign meaning to the visual. So instead of just identifying the scene as "police in the street," a first-order semiotic meaning, they instead say "police investigating a murder," a second-order response based on prior cultural knowledge.

Cultivation research demonstrates relationships between television content, heavier viewing, and people's conceptions of the world. In other words, it argues that people who view more television see more violence, and in turn, find the world to be a more negative and dangerous place. What remains unclear in cultivation is the process that explains the relationship between viewing and conceptions of the world. The present study's findings offer insight in understanding that process.

Meaning construction appears to be a relevant component in the relationship between television viewing and concern about crime. First, consider the types of meanings heavier viewers perceive in crime-specific visuals. Their depth and abstraction is greater than simply recognizing the visual as the thing it depicts. This semiotic order of signification, based on cultural knowledge, goes far beyond what is evident in the picture. A visual of police in the street at night becomes a murder scene, or indicates action involving drugs. According to

Findahl and Hoijer (1985), comprehension involves a merging of stored information and inference about it (also see Woodall, et al., 1983). The stored information, or cultural knowledge, of heavier viewers may be based largely on television reality. Hence, when making sense of a crime-specific news picture, these viewers may draw on similar scenes they may have stored from watching other crime news or crime drama. The heavier viewers give the scene its own context, often sensational, brutal, or morose. The meanings specifically focus on crime.

Cultural knowledge used to discern meaning may be stored in semantic memory. This form of memory involves a network of interrelated words, concepts, and properties (Quillian, 1968; Collins & Loftus, 1975), or in other words, pre-existing knowledge. Heavier television news viewers may be drawing from a semantic memory filled with images of crime from previously viewed crime stories. Highly intense negative images are likely to be found among the pre-existing knowledge, as visuals are remembered better for stories with compelling video (Newhagen & Reeves, 1992). That information may interact with violent images of crime depicted in crime drama when constructing meaning from crime news visuals. The news pictures, along with their meanings, may then be stored among the semantic network, becoming available to those individuals in making judgments about their personal safety and crime in general.

The process of constructing meaning from local crime news visuals, and developing conceptions of crime and safety is likely dynamic and multidirectional. Fear of victimization stored in the semantic network may surface when interpreting a news visual, giving it a crime-oriented meaning. That meaning may then be stored in the memory network to later be

used in sustaining or heightening that fear. Lighter viewers would have a less rich television-based memory network from which to draw in constructing conceptions of crime.

Implications for Current Theory

Differences in meanings discerned from crime news visuals indicate individual cognitive processing differences between heavier and lighter viewers. The results imply that semantic memory stores may play a role in the differences between heavier and lighter viewers, with heavier viewers drawing from a richer television-based network. The findings suggest that the visual aspects of television play an integral role in cultivation. In some cases, visuals convey crime-specific meanings, regardless of audio context, and heavier viewers are more likely than lighter viewers to interpret them as such.

Limitations of the Study

While the findings from this study can statistically be taken no further than the student population from which they were gathered, we may infer that similar results may be found in a general population. In addition, the crime context presented in the seven-minute block of crime news does not necessarily represent all local newscasts. Using a mixed news segment would strengthen the findings. And while the findings are limited to crime news visuals and concern about crime, they indicate that specific types of visuals may be related to construction of other types of social reality, i.e. perceptions of ethnic or racial groups or particular professions.

Recommendations for Future Research

In this study, visual processing emerged as an integral component in the cultivation process. To further explore the function of semantic memory in relation to social reality

construction, a similar study could be conducted adding a listen-only treatment. After listening to the audio track from crime stories, respondents could be asked to write down images that come to mind based on the news they just heard. This would better address the images stored in memory to determine differences between lighter and heavier viewers.

The present study could be used as a model for research on other types of social reality construction. Instead of crime news, respondents could view a general newscast, and visual meaning could be assessed in relation to conceptions of, for example: government, education, or racial/ethnic issues. Focusing on a single broadcast market with a diverse population would add depth to the research.

Industry Implications

The "if it bleeds it leads" approach to local television news may be communicating violent visual meanings that translate to a focus on crime for heavy viewers. While body bags may appeal to morbid curiosity, they may also relate to cultivating fear of urban areas. Reporters, editors, and producers need to consider the reality shots depict, and take care in their use. In the fast-paced environment of local news gathering and production, time constraints may impede consideration of these issues. An awareness of the potential impact of crime-specific visuals on viewer's conceptions of crime, and sensitivity when determining their use is called for if television journalists are to deliver news to the public responsibly and accurately.

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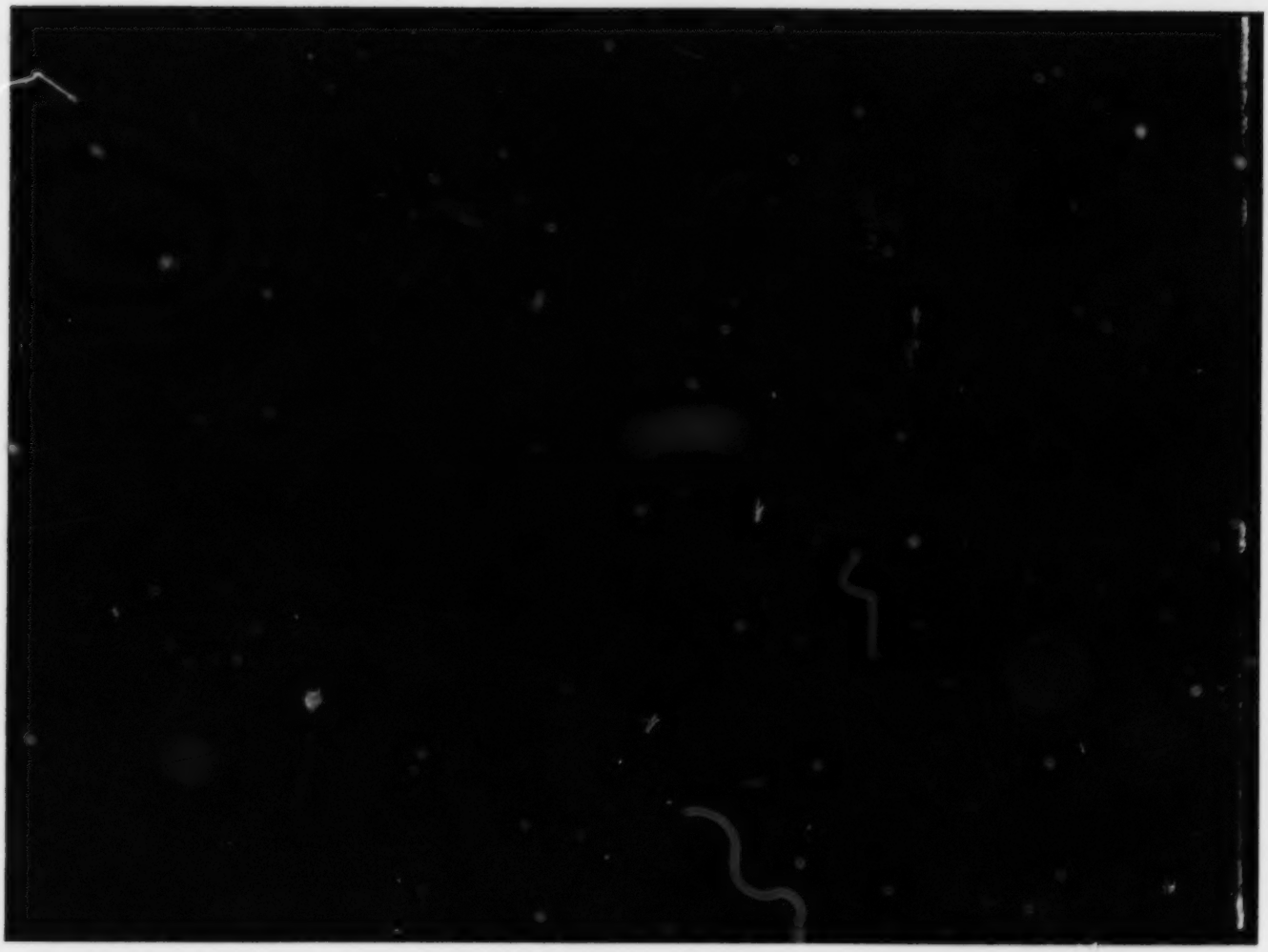
Appendix 1



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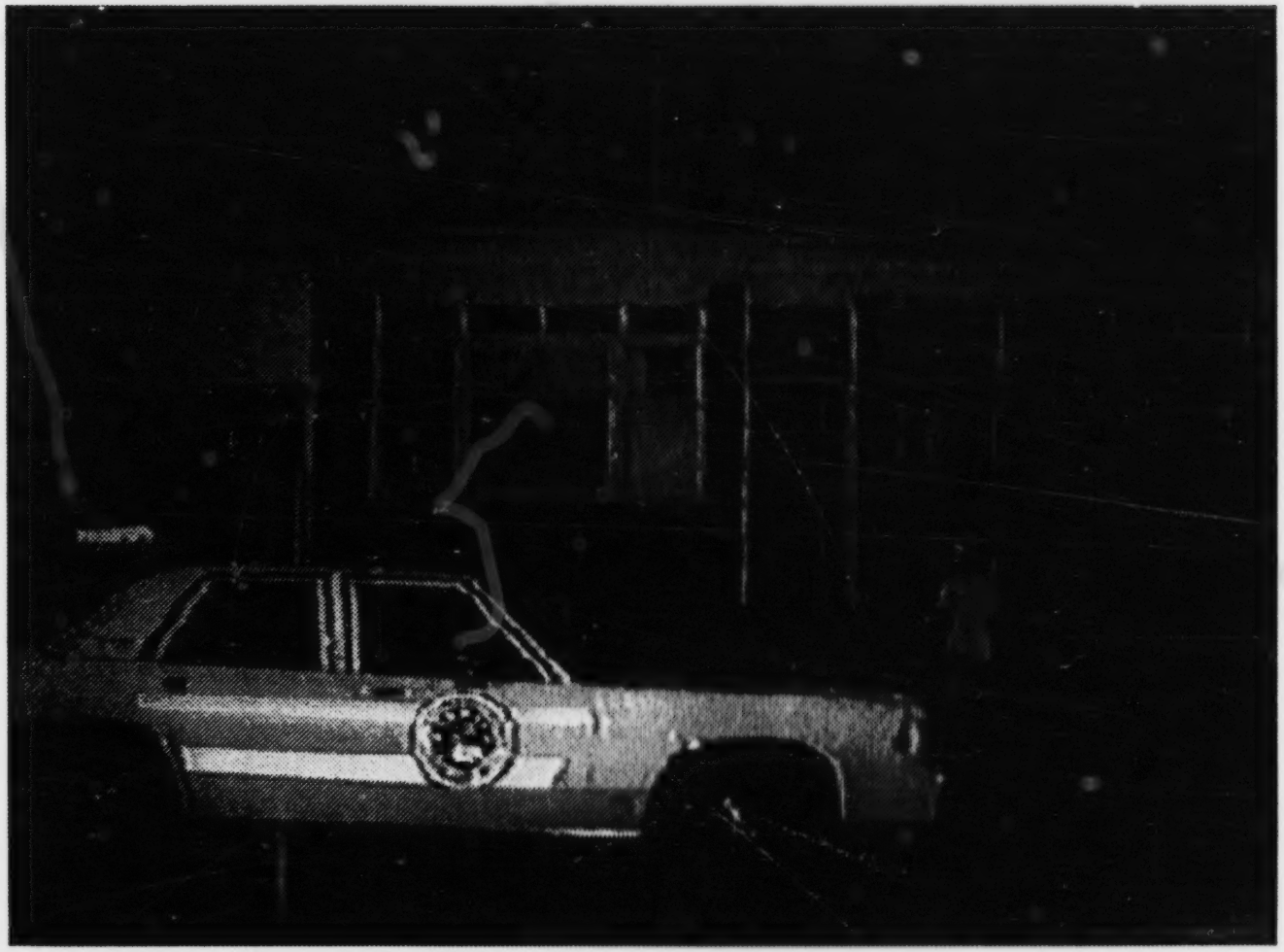

Appendix 2

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Appendix 3

Appendix 4

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Comparative Performance of the Pie and the Bar

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Comparative Performance of the Pie and the Bar

Abstract

The relative merits of the pie, the divided bar, the oval and the multiple bar were evaluated in two experiments, one using a comparison task and the other using a proportion task. The representations were tested on three critical variables: systematic bias, estimation error and ease of processing. The results validate the conventional practice of using the multiple bar chart for representing comparisons and the pie for representing proportions.

Comparative Performance of the Pie and the Bar

The pictorial representation of data yields graphs that serve as vital communication tools in the media. Graphs are a part of our everyday life. They are used increasingly in the mass media and in public discourse. The widespread use of visual representations of data is not unique to the mass media. In fact, it is part of a societal trend that ranges from medical imaging to NASA's renditions of distant celestial objects.

There is a stream of research in the mass communication literature that specifically addresses the impact of graphics on memory, visual perception and cognition. Tankard[1] addresses cartoon-like quantitative renderings, which he calls "chartoons," and provides a check list for producing better graphics. In another study, Tankard[2] examined interest and information gain from chartoons. The findings suggest that readers find chartoons more interesting than simple graphs, although this did not translate into any significant information gain. Smith and Hajash[3] provide a content analysis on information graphics in 30 daily newspapers. David[4] examined the accuracy of perception of various mass media quantitative graphics. Griffin and Stevenson[5] report that complex information graphics facilitate memory for news. In a related study, Griffin and Stevenson[6] found that newspaper readers' understanding of context of international news improves when the same information is presented through text and graphics. Tankard[7] offers visual crosstabs as an analytical tool for exploring relationships.

Despite the growing interest among scholars on the role of visuals and graphics in the news, Spence & Lewandowsky[8] indicate that the theoretical development of the cognitive processing of graphs is still at its infancy. Hence, the purpose of this paper is to study cognitive processing graphs by focusing on the pie and the bar.

The intuitive concept of dividing a whole into fractions was introduced by Playfair[9] and has been a popular technique ever since. However, statisticians have regarded the pie as inferior[10] to the bar, although there is no compelling evidence to support this notion. In the earlier studies[11] the pie was compared against the divided bar. In the more recent studies, the pie has been compared against both the divided bar and the multiple bar[12]. Though not conclusive, recent studies suggest that the pie

may be particularly suited for representing parts of a whole, whereas the bar is better at representing comparisons between various elements in the data. The purpose of this study is to pursue this line of research and to confirm whether the conventional wisdom of presenting proportions as parts of a circle, oval or bar is justified. In other words, when the data to be represented are an exhaustive set of parts of a whole, the pie is the preferred format. On the other hand, for representing comparisons, without the necessary constraint that the sum of the items add to 100 percent, the multiple bar chart is preferred. The pie and the bar will be evaluated on three criteria for two different tasks. The three criteria are overall accuracy of perception, systematic bias in visual perception and perceived difficulty during processing. The two tasks are comparison judgments and proportion judgments.

Criteria Used in Evaluation

Overall accuracy is a composite measure that includes both a random error component and a systematic error component. It can be operationalized as the absolute difference between the physical data represented in the graph and the data perceived by the subject:

$$\text{Overall Accuracy} = \frac{\left| \sum_{i=1}^{n} (\text{Physical Magnitude})_i - (\text{Perceived Magnitude})_i \right|}{\sum_{i=1}^{n} (\text{Physical Magnitude})_i} \qquad (1)$$

where, n is the number of data points represented in the graph.

Systematic bias focuses on the systematic error component of the overall accuracy of perception. The study of systematic bias associated with estimation of various graphical representations provides insight into why one representation might be processed more accurately than another. Drawing from previous theoretical work on perception of graphs, Stevens' law from visual psychophysics will be used as the theoretical platform to study systematic bias. Baird and Noma[13] suggest that psychophysics is based on the premise that human beings act as measuring instruments interpreting physical stimuli in the environment. Physical stimuli come in various forms such as brightness of light, loudness of sound, sweetness of different drinks, painfulness of impact and size of objects, to mention only a few. The overarching goal of psychophysics is to study how sensory and

cognitive mechanisms perceive and interpret the magnitude of the stimuli in the respective continua. To a large extent, psychophysics investigates the mapping between the physical magnitude of stimuli and their assessments by the perceptual systems in people, which is particularly relevant to the study of graphs.

Given its relationship to physics, psychophysical theories are often expressed in the form of mathematical formulae. One formula that has played a significant role in perception of graphs is Stevens' law[14], which was introduced to visual perception of graphs by Cleveland and McGill[15]. Stevens' law states that the perceived magnitude of a stimulus is an exponent function of the physical magnitude of the stimulus. Therefore, it is sometimes referred to as the exponent law. The elegance of the exponent function is its ability to explain experimental results from a variety of physical continua, using a simple mathematical expression with two variables and two constants.

$$y = \alpha (x)^{\beta} \qquad (2)$$

where y is the estimated magnitude of the stimulus, x is the physical magnitude, α is a scaling factor and β the exponent. See Appendix 1 for a detailed explanation.

The exponent function has been replicated in hundreds of experiments for a wide variety of continua. Some examples of continua in which Stevens' law is applicable are as follows: electrical shock, color saturation, finger span, heaviness, taste, smell, skin vibration and size measurements. The interesting factor across all these continua is the exponent function, because it transcends the particular nature of the stimulus and suggests an underlying order in the perceptual transformation of our environment. For a thorough review see Baird and Noma[16] .

For the purposes of this study we are interested in the perceptual transformation of the size information in graphs to quantitative information. Hence, the value of the exponent in Stevens' law will be used as an index of the systematic bias that is associated with visual perception of any of these graphs. If the value of the exponent is close to one, there is minimal systematic bias. A value less than one suggest underestimation and a value greater than one suggests overestimation.

Perceived difficulty is an evaluative measure of the ease/difficulty involved in estimation of the data represented in each graph, without the aid of labels.

Hence, the research question is to evaluate accuracy of visual perception of common pie and bar chart formats, namely the circular pie, the oval, the divided bar and the multiple bar, on three dependent variables: overall accuracy, systematic bias and perceived difficulty. However, accuracy of perception of all four representations cannot be evaluated on one common task because representations of parts of a whole should favor proportion judgments, whereas the multiple bar should favor comparison judgments. Therefore, the three dependent measures will be evaluated on two estimation tasks, namely proportion and comparison judgments.

Experiment 1

The goal of this experiment is to evaluate the circular pie, the divided bar, the oval and the multiple bar on a comparison task. Since the multiple bar chart is better suited for representing comparisons and the pie, oval and divided bar are better suited for representing proportions, it was predicted that the multiple bar will have the least estimation error. Given earlier work on elementary codes[17] by Cleveland and McGill, and Spence, we predicted a null model for differences in systematic bias between the four representations. For difficulty, we predicted that the multiple bar would be easiest because it appears to be the vehicle of choice for representing comparisons.

Figure 1

Hypotheses

H1: Since the task involves comparison judgments, the multiple bar is predicted to be more accurate than the other three representations when estimation error is used as the dependent measure.

H2: The systematic bias for the pie, the oval, the divided bar and the multiple bar are not significantly different from one another.

H3: If indeed multiple bars are better suited for representing comparisons, then performing the comparison task on the multiple bars will be easier than the other three.

Method

Magnitude Estimation Technique

In the magnitude estimation task used in this experiment, subjects were presented with a graph that had seven elements. No two elements of the graph were of the same size. The median element was assigned an arbitrary value and appeared in the third or fourth position. With the assigned element as the standard, subjects were asked to estimate the values associated with the other elements. For each subject, the logs of the perceived values were plotted against the logs of the physical values and the exponent estimated. The Stevens' exponent from Equation 2 was used as an index of the systematic bias. See Appendix 1 for details on how the exponent was estimated.

Subjects and Design

Twenty-four undergraduate students participated in the experiment as part of a class requirement. The subjects were run in two groups of 12. A simple within-subjects design with four levels was used. Each type of representation served as a different level.

Stimuli

Subjects were given all four stimuli, shown in Figure 1. The data for the stimuli were determined by generating a series of seven random numbers between 10 and 100. Then all four stimuli were graphed to display the same data. The median element was treated as the standard and assigned a value of either 200, 400, 600 or 800. The value of the standard was changed so that subjects would not realize that the same data were represented in all the graphs. The size of the graphs were controlled to the extent that all graphs fit within the dimensions of the multiple bar graph. The stimuli were labeled from A through G. The value of the standard was stated and subjects asked to provide the values of the other elements based on the standard. The stimuli were printed on regular 8.5" x 11" white paper.

Four versions of each representation were printed, each with a different value for the standard, which took one of four values: 200, 400, 600 or 800. In addition, three backward counting task sheets, with slots for 25 backward counts were prepared. The stimuli were put together as booklets,

fully counterbalancing for the order of presentation and the value of the standard. Four versions of the booklets were created such that all representations occurred equally often in all four positions and the four values of the standard were assigned equally often to the four representations. Once the booklets were arranged, the backward counting task sheets were interspersed between magnitude estimation tasks.

Procedure

A test booklet was assigned randomly to each subject and they had to work through the booklet in a classroom setting. Six subjects were run under each of the four conditions for a total of 24 subjects. They were instructed that the booklet consisted of two types of tasks: size estimation and backward counting. The use of a calculator, ruler or other geometric instruments was prohibited.

For the size estimation task, they were instructed to estimate the value of the other elements using the value of the given element as the standard. For the backward counting task, they were told that they would be given the first five numbers of a series and asked to complete the next 20 numbers in the series. Finally, subjects were asked to rank order the four graphs on ease of performing size estimation.

Analysis and Results

Since the Stevens' exponents were used as an index of systematic bias, they were first estimated by regressing the log of the perceived magnitudes against the log of the physical magnitudes and estimating the exponent from Equation 2. See Appendix 1 for details on parameter estimation. The mean of the exponents for the four representations are presented in Table 1 and Figure 2. As predicted, the exponents for the four representations were almost equal to one. They ranged between 0.98 and 1.06. The plots for all the subjects were examined for goodness of fit of the exponent. The average r-squares were also examined, and it was found that about 95 percent of the r-squares were greater than 0.9.

Analysis of variance on the exponents was conducted using a simple repeated measures design with four levels and the main effect for the model was not significant. The null effect indicates that

there is no difference between the exponents for the pie, the oval, the divided bar and the multiple bar, which supports our second hypothesis.

The overall accuracy for the comparison judgments was estimated by taking the total error defined in Equation 1. The error was obtained by taking the sum of the absolute differences between the perceived values and the physical values and dividing it by the sum of the physical values. This ratio was used as the measure of accuracy and submitted to an analysis of variance. A simple repeated-measures analysis of variance with four levels indicated that the main effect was significant, $F(3,69) = 15.780$, $MSe = 0.082$, $p < .001$. Post hoc tests indicated that the multiple bar was the most accurate and the oval the least accurate. Except for the difference between the circular pie and the divided bar, which was tending toward significance at the $p < 0.1$ level, all other pairs were significantly different from one another at $p < 0.05$. The mean of the estimation errors is presented in Figure 2 and Table 1.

Table 1 & Figure 2

Next, the ranks for ease of estimation of the four graphs were analyzed. The mean ranks are presented in Figure 2 and Table 1. The oval was unanimously ranked as the most difficult, resulting in a mean rank of 4.0. Hence, the oval was dropped from the analysis and the ranks of the remaining three graphs analyzed using a simple repeated-measures design with three levels. The main effect of the model was significant, $F(2,46) = 17.267$, $MSe = 10.292$, $p < .001$. There was no significant difference between the pie and the divided bar on ease of estimation. The multiple bar, however, was significantly easier than the pie and the divided bar at $p < .001$.

Together, these results support the hypotheses. First, there is no difference in the values of the exponents for the pie, the oval, the divided bar and the multiple bar. This indicates that there is no statistically significant systematic bias associated with any of these representations. When overall accuracy for the various graphs were compared, the multiple bar was more accurate than the other three representations. This result supports the second hypothesis that for comparison tasks the multiple bar is superior to the pie, the oval and the divided bar. Further, in terms of perceived difficulty, the multiple bar was ranked the easiest, which supports the third hypothesis.

Experiment 2

Since the pie, the oval, the divided bar and the multiple bar were evaluated on comparison judgments in Experiment 1, the goal of this experiment is to evaluate these representations on proportion judgments.

In order to study proportion judgments, a constant-sum estimation task was used in this experiment. According to this method, a pair of elements were presented at a time, whose sum equals 100 percent. Hence the name constant-sum method. One of the elements in the pair was black and the other element white. On any trial, subjects had to estimate what percentage of the whole the black or white portion represented. For the multiple bars, subjects were presented a pair of bars and instructed that the sum of the elements in each pair equals 100. In addition to performing the proportion task, subjects ranked the four representations on the difficulty of performing the estimation task.

Figure 3

Hypotheses

Since there was no evidence of systematic bias in the perception of the four graph types in Experiment 1, we did not pursue it any further. Hence, we evaluated the graphs on only two dependent variables, namely overall accuracy and perceived difficulty.

H4: For the proportion task, representations of parts of a whole, namely the pie, the oval and the divided bar will have higher overall accuracy compared to the multiple bar.

H5: Given the complex set of operations that are required to perform constant sum estimation on multiple bars, it is predicted that the multiple bar will be rated most difficult.

Method

Estimation Task

The estimation task in this experiment is different from the one used in the previous experiment. The stimuli used in this experiment are presented in Figure 3. Half the subjects had to estimate the percentage of the whole the white portion represented and the other half estimated the

percentage of the whole the black portion represented. Subjects were instructed that the sum of the white and black components always adds to 100 percent. The absolute difference between the physical percentage and the perceived percentage was used as the key dependent variable.

Subjects and Design

Twenty-four subjects participated in this experiment as part of a course requirement. A simple within subjects design with four levels was used in the experiment. Each of the four types of graphical representations constituted a level. Subjects were run in three groups of eight in a classroom setting.

Stimuli

Four sets of random numbers, with seven numbers in each set were generated using a random number generator. The numbers ranged between 1 and 99. One set was randomly assigned to one of the four representations. Therefore, seven trials were created for each of the four representations. However, all trials were presented on one page. A sample task sheet is presented in Figure 4. Half of the subjects were instructed to estimate the black portion and on the other half the white portion. For each representation subjects performed constant-sum estimates on seven trials. All seven trials for a representation were presented on one page, which was followed by a backward counting task.

Figure 4

After the task sheets were printed, they were fully counterbalanced such that the four representations occurred equally often in all four positions. The backward count worksheets were interspersed between magnitude estimation worksheets.

Procedure

Subjects were assigned randomly to one of the four counterbalancings within the black or white condition. In addition to the instructions given in the previous experiment, subjects were told that the sum of the black and white portions on any representation always equals 100 percent. Since estimating proportion in the two-bar representation is not intuitively apparent, subjects were specifically instructed that the sum of the two bars should equal 100.

Analysis and Results

The error associated with each representation was estimated by taking the sum of absolute differences between the physical magnitudes and the perceived magnitudes. The errors were analyzed using a repeated-measures analysis of variance with four levels. On six out of the total of 672 trials, the values of the estimate was transposed. In other words, the value of the black portion was estimated when the white portion was requested, or vice versa. For these trials, mean substitution was used. There was one outlier with a value greater than 100, which was also substituted with the mean.

The main effect for type of graph was not significant, indicating that there is no difference in the error associated with proportion judgments for the pie, the oval, the divided bar and the multiple bars. Although the data were in the expected direction, the differences were not statistically significant. Hence, there was no evidence to support Hypothesis 4.

Subjects ranked the four types of representations on the ease with which they performed the task. Analysis of variance on these ranks indicate a significant difference between the various representations, $F(3,69) = 16.20$, $MSe = 16.53$, $p < .01$. The circle was ranked to be the easiest, followed by the divided bar and oval. The multiple bar was ranked the most difficult. The difference between the multiple bar and the circle was significant at $p < .01$. Means for ranks and errors are presented in Table 2. Summary scores on ease of processing are presented in Figure 5. Hence these results support Hypothesis 5.

In sum, the results from Experiment 2 suggest that although there are no significant differences in overall accuracy between the various representations on the proportion task, intuitive representations of parts of a whole, such as the pie, the divided bar and the oval are processed easily compared to the multiple bar.

Figure 5 and Table 2

Discussion

The finding from Experiment 1 that there are no differences in terms of systematic bias between the four data representations confirms related findings by Cleveland and McGill, and Spence. The differences in overall accuracy and perceived difficulty offer new leads for interesting theoretical

elementary operations that they propose are sufficient to explain visual processing of simple graphs: detection, anchoring, projection, superimposition and scanning. Detection is the simplest of the five operations and is used to detect differences in size between two components of an image. The *detection* operator returns a simple dichotomous result such as larger/smaller. *Anchoring* is the process by which a reference point is picked out as a marker or an anchor. Values such as 50%, 25%, 10% are ideal candidates for an anchor. *Projection* involves sending out a ray from one point to another. For example, a horizontal ray may be projected from one point to another. The *superimposition* operation involves moving elements of an image to a new location so that the elements overlap another component of the image. It is used when the simpler and more accurate projection operator is not adequate. Finally, *scanning* is analogous to "sweeping" across the distance between two points on the image, or between the anchor and another point.

Although the visual system is capable of executing complex visual routines, overall accuracy and perceived difficulty expressed by the subjects can be explained in terms of the number and complexity of the different elementary operations. For comparison judgments, the bar chart requires a projection operation, followed by anchoring and scanning. But the pie, the oval and the bar char all require the more challenging superimposition operation, followed by anchoring and scanning. Since the projection operation is easier than superimposition, the multiple bar is less prone to errors and is also perceived as the easiest. On the other hand, for proportion judgments it is the multiple bar chart that requires the more difficult superimposition operator. Hence, the multiple bar chart is more error-prone and ranked more difficult than the pie, the oval and the divided bar. Future research could address the role of such visual operations used in quantitative graphics. It appears plausible that the curvature of the oval hinders its overall performance.

Conclusion

The relative merits of the pie, the divided bar, the oval and the multiple bar were evaluated in two experiments, one using a comparison task and the other using a proportion task. The representations were tested on three critical variables: overall accuracy, systematic bias and ease of processing. The results support the conventional practice of using the multiple bar chart for

representing comparisons and the pie for representing proportions. There is no evidence of systematic bias in visual perception associated with any of the four representations. In the future, researchers could address the underlying mental operations involved in estimations and explore how these representations promote learning and memory for the data.

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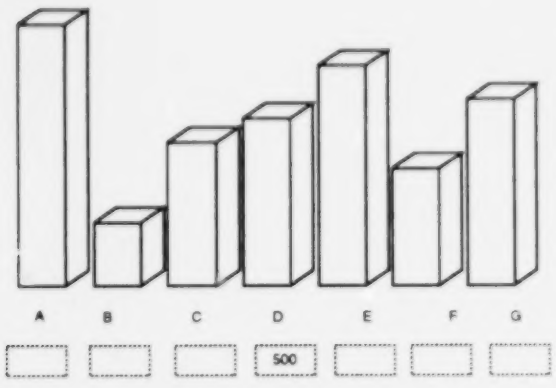
Appendix 1: Magnitude Estimation Technique

In most psychophysical experiments, elements are shown in succession during magnitude estimation. The subject is asked to provide an initial value for a standard element. Relative to this standard, the subject is asked to assess the magnitudes of a series of representations.

While this direct magnitude estimation task is theoretically well-grounded, it is atypical of the task involved in estimating real-world quantitative graphics, in which a number of elements are encountered at one time. Therefore, a slightly modified version of magnitude estimation will be used in this experiment, in order to provide ecological validity to the findings.

In the modified task, subjects were presented with a graph that had seven elements. No two elements of the graph were of the same size. The median element was assigned an arbitrary value -- known as modulus in the psychometric literature -- of 500 and appeared in the third or fourth position, which was determined randomly. With the assigned element as the standard, subjects were asked to estimate the values of the other elements. See Figure.



Although this modification is only minor , it influences the parameter estimation procedure. Typically, the ratio model outlined by Baird and Noma involves a standard stimulus and a series of comparison stimuli. If T_s and T_c are the physical magnitudes of the standard and comparison stimuli, and t_s and t_c are the perceived or estimated magnitudes of the standard and comparison stimuli, then the equation between the perceived ratio $\frac{t_c}{t_s}$ and the physical ratio $\frac{T_c}{T_s}$ can be expressed as follows:

$$t_c = \alpha (T_c)^{\beta} \qquad (1)$$

$$t_s = \alpha (T_s)^{\beta} \qquad (2)$$

By dividing equations 1 by 2, and taking logarithms we get:

$$\left(\frac{t_c}{t_s}\right) = \left(\frac{T_c}{T_s}\right)^{\beta} \qquad (3)$$

$$\log\left(\frac{t_c}{t_s}\right) = \beta \log\left(\frac{T_c}{T_s}\right) \qquad (4)$$

Equation 4 shows how the scaling constant α cancels out and a no-intercept form of the regression equation is adequate to estimate β, the underlying exponent.

However, in the estimation task proposed for this experiment, the standard is not estimated. It is provided as an arbitrary value, relative to which both the physical and estimated magnitudes are scaled. Therefore, instead of the two equation form presented in Equation 4, the single equation form will be used to estimate the parameters:

$$\log (t_c) = \log (\alpha) + \beta \log (T_c) \qquad (5)$$

where, t_c and T_c are the estimated and physical magnitudes respectively for the comparison stimuli, both compared against a constant. Here α is only a scaling factor and depends on the estimation task used, whereas β is the critical parameter, which changes with the physical continuum that is estimated.

Equation 5 suggests that the relationship between t_c and T_c is a straight-line function in log-log coordinates. Estimating beta from this function is straightforward. The logs of the perceived magnitudes are plotted against the logs of the physical magnitudes and the value of beta estimated using ordinary least squares (OLS) regression. The parameter obtained from this procedure pertains to only one graph for one subject. Since four types of graphs were tested, four parameters were estimated from each subject. These parameters were then averaged over all the subjects.

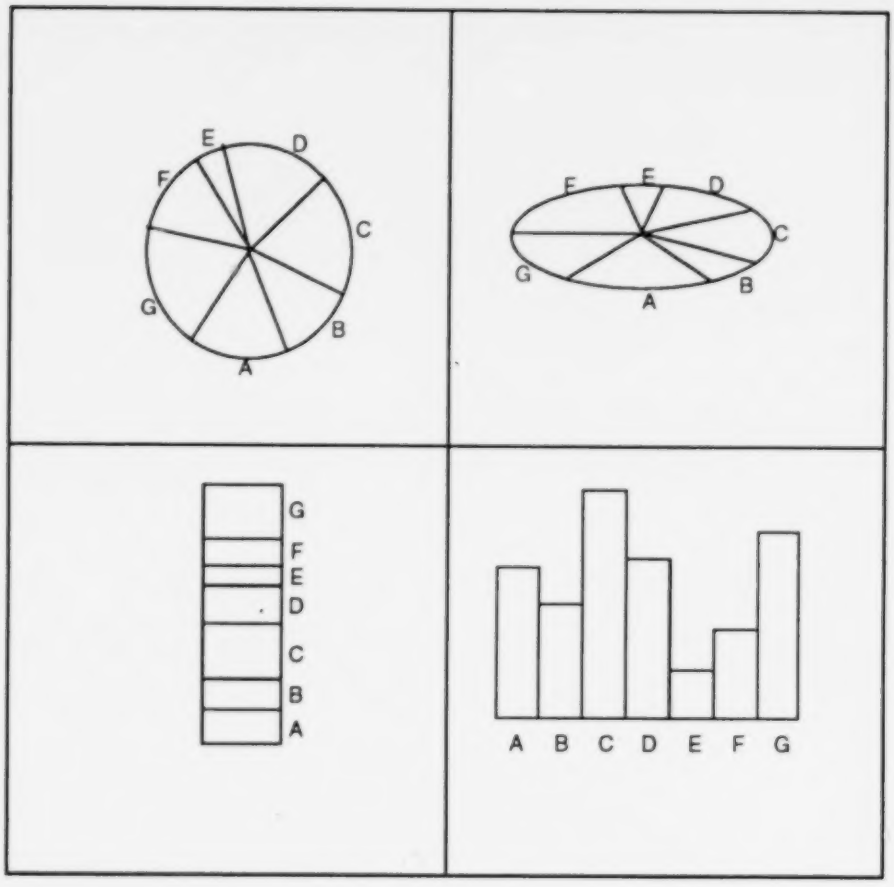


Figure 1 The stimulus set for Experiment 1, reduced to 40 percent of the original size.

	Pie	Oval	Divided Bar	Multiple Bar
Exponent	0.983	1.010	1.056	0.992
Estimation Error	0.134	0.187	0.097	0.048
Rank	2.583	4.000	2.125	1.292

Table 1 Means of the exponents, estimation errors and ranks in Experiment 1. For rank, 1 = easiest and 4 = most difficult.

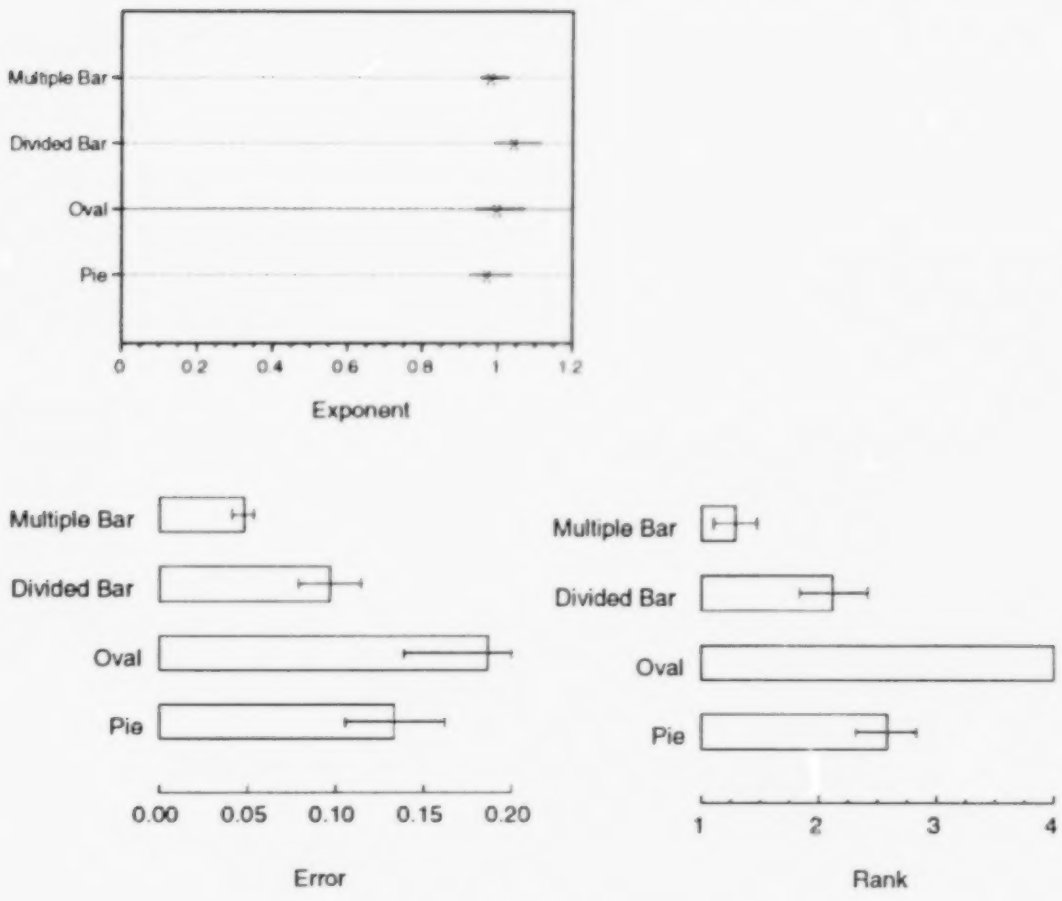


Figure 2 Summary data from Experiment 1. Top panel is a dot chart representing mean exponents for the pie, oval, divided bar and multiple bar, with 95% confidence intervals. Estimation error for the comparison task and the mean rank for ease of processing are presented (1 = easiest and 4 = most difficult) are presented in the lower panels.

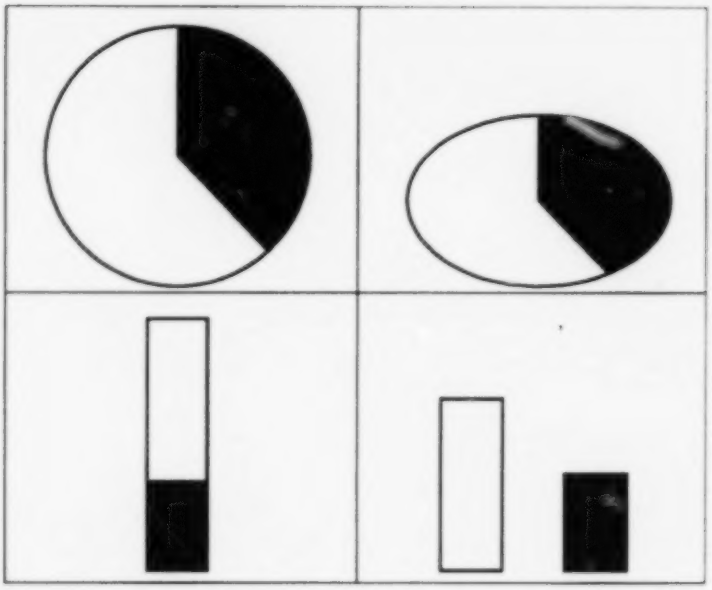


Figure 3 Stimuli for the constant-sum estimation task used in Experiment 2. Subjects had to estimate the percentage of the whole occupied by the black or white portion, given that the sum of the black and white components always equals 100 percent.

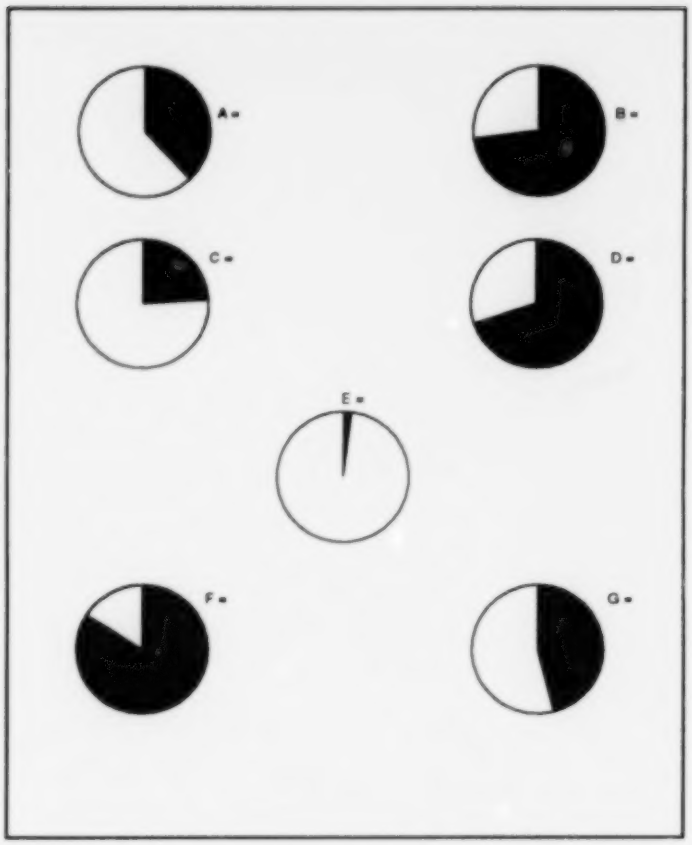


Figure 4 Constant sum estimation task for circles. This figure is presented at 50% of the original size. Subjects were instructed as follows: If the whole circle represents 100%, estimate percent represented by the shaded portion in each of the following circles.

	Pie	Oval	Divided Bar	Multiple Bar
Estimation Error	16.66	18.08	19.35	22.64
Rank	1.50	2.88	2.21	3.42

Table 2 Estimation error and the rank on the proportion task for Experiment 2. For rank, 1 = easiest and 4 = most difficult.

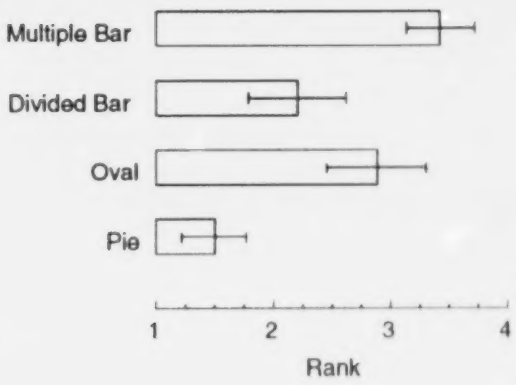


Figure 5 Difficulty in estimating proportions for the four representations (1 = easiest and 4 = most difficult) in Experiment 2.

JOB SATISFACTION AMONG PHOTOJOURNALISTS PAST 40:

A NATIONAL SURVEY LOOKS AT "THE LIFERS"

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JOB SATISFACTION AMONG PHOTOJOURNALISTS PAST 40: A NATIONAL SURVEY LOOKS AT "THE LIFERS"

♦ ***Senior newspaper photographers keep motivated through interaction with colleagues and by shooting self-generated photo projects. Many feel overworked, but most enjoy the freedom of working outside the office. All wish management would respect their experience and listen to them more.***

Photographs and cutlines may be the most visible segments of many newspapers, but the role and importance of their creators -- photojournalists -- has only recently become a topic of research. Photographers were largely ignored in studies during the 1960s and 1970s. The veterans in the profession -- those over 40 years old -- have been even more ignored.

When Jack M. McCloud and Searle E. Hawley, Jr. surveyed print journalists and broadcasters for a 1964 study about the profession, they omitted photographers.[1] A

decade later, John W. C. Johnstone, Edward J. Slawksi and William W. Bowman completed a major look at newsrooms. but also excluded photo staffs.[2] To partly replicate the Johnstone study, researchers David H. Weaver and G. Cleveland Wilhoit also left out photojournalists during their examination of American journalists in the early 1980s.[3]

Two reports published in the past dozen years are generally recognized as significant studies specifically about photojournalists, and the articles did not paint a pretty picture of the profession.

In the first, Beverly Bethune developed a profile of the typical daily newspaper photographer.[4] Using a national survey, she found him to be white, male, college-educated and "in a profession of young people: 71.7 percent are younger than 40." Furthermore, Bethune reported that 65 percent of the group expressed dissatisfaction with their opportunity to advance. Unlike their reporter counterparts who often move on to become editors in the newsroom, most photojournalists remain staff photographers, or they leave the business.

That lack of a career ladder was the major focus of the second benchmark study.James H. Bissland echoed Bethune's finding, writing that dissatisfaction was strongest in the area of promotions. Bissland concluded: "Highly specialized in their field, dedicated to their profession, but finding little opportunity to advance, photojournalists tend to develop feelings in their 30s of being trapped."[5]

Recognizing that the average age of the respondent in the two previous studies was young (Bethune, 31; Bissland, 30), and that the findings were generally representative of those with 10 years or less experience in the profession, this study attempts to measure the feelings of photographers who have broken through the age-40 barrier to settle into newspaper work as a career, whether whole-heartedly or with reservations. This report will accomplish three tasks: (1) identify the group's common characteristics, (2) examine job satisfaction and related factors in the workplace, and (3) serve as a sounding board for veteran visual communicators.

Methodology

To survey the group, a mailing list of photographers age 40 and over was obtained from the headquarters of the National Press Photographers Association, whose membership numbers about 10,000. The 1,136 mailing labels came arranged in rows of four across. To assemble a random sample of one-fourth of the group, the third column of names was arbitrarily chosen for this study. All NPPA regions were represented in the cross section of addresses, which ensured surveys would be sent to almost all states. Circulation size of the members' newspapers was not a factor in the arrangement of the labels, which were ordered by region and alphabetized by name across each page.

A draft of the four-page survey (based partly on the Bethune and Bissland studies) was developed, and then reviewed by directors of photography at two metropolitan newspapers. After incorporating their suggestions into the questionnaire and eliminating foreign addresses from the list, copies of the survey and postage-paid return envelopes were sent to 274 NPPA members in February 1994. An explanatory cover letter stated that the survey could be answered anonymously. To encourage responses, a short paragraph in the April 1994 issue of the organization's magazine, *News Photographer*, called attention to the study and reminded members to reply.

Respondents who met two qualifications were included in the study. First, they had to verify being at least 40 years old. (The mailing list apparently contained errors; one blank survey was returned by a 27-year-old.) Second, they had to confirm that the bulk of their daily responsibilities involved "staff photographer work for a newspaper; using a camera to shoot pictures." Photo editors and directors of photography were excluded unless they also shot assignments on a regular basis. Recent retirees were included if they indicated their answers reflected feelings while still on the job. Eighty surveys were returned by the cut-off date of July 1, 1994, but only 64 were considered valid, providing a response rate of 23.4 percent.

The survey contained 19 items about age- or job-related issues. There were also questions asked about personal family situations, opportunities for freelancing and community involvement. In some sections of the survey, photographers were asked to check all statements that applied to them. In other places on the questionnaire, they indicated importance on a scale of 1 ("not important") to 5 ("very important"). About half of the questions called for further explanation of answers by asking "Why?"

Age, Experience and Salary Findings

By using newspaper circulation figures, demographic information was divided into three categories for comparison.

The age of the respondents crept up as circulation climbed. The average age was 48 at the newspapers with circulations under 50,000, 51 at the publications with 50,000-100,000 circulation, and 52 at larger papers. The average age for all who answered the survey was 50.

Years of photography experience, however, did not increase with circulation size. It was highest at the medium-sized papers (26.5 years), followed closely by the larger ones (26.3 years), and lowest at the smaller newspapers (19.5 years). The average for the survey group was 24.1 years of professional experience.

The number of years spent at their current paper followed a similar pattern. Photographers at the medium-sized newspapers averaged 23.2 years of employment there, 100,000-plus shooters reported 21.2 years, and the under-50,000 respondents averaged 16 years. The average for all was 20.1 years at the same paper, indicating a fairly close correlation between years worked (average = 24.1 years) and years worked at the same place. Members of each circulation group had shot for an average of two newspapers during their careers.

Asked to list how old they were when they decided to remain a staff photographer (if in fact they had decided), as opposed to trying for management, editing or another line of work, the average age was 37.6. Photographers at the middle-sized papers committed earliest, averaging age 32.8, followed by the larger papers at age 37.4, and the smaller ones at age 40.3.

The reasons varied. "I was picture editor of a paper for a year," wrote an Iowa photographer. "I am a photographer, not a politician. Decided editing was not for me." A 58-year-old Indiana photographer expressed similar feelings, noting, "I sat on the picture desk for two weeks, and couldn't wait to get back to the streets." A 49-year-old with 30 years shooting experience explained, "I have been offered chances to edit. But my heart and soul is being on the street, chasing the cops and such. Every day is an adventure this way." A California photographer who has worked at one paper for 25 years said, "I like what I do; why change?" A staffer at a large Texas daily mentioned being influenced by photographers over 60 when he began. "I admired their energy and drive," he wrote. "Plus I have not shot my best photo yet."

Salary, as might be expected, varied considerably among the group, and dollar amounts overlapped circulation categories. Those at the smaller papers reported weekly gross pay from $350 to $816, while the medium group's salaries ranged from $597 to $900. Photographers were paid $600 to $1,500 per week at the larger papers. The average for all respondents (n = 53) was $695.75 weekly, or $36,179 a year. Eleven photographers did not report their earnings but completed the bulk of the survey.

Job Satisfaction

Respondents were asked to compare their current job to work 15-20 years ago, and score their present level of satisfaction -- defined as "basically pleased to go to work; happy with your situation." A score of "1" indicated less satisfaction now, "3" meant it

was the same as 15-20 years ago, and "5" represented more satisfaction now. (One response came in as a "minus-10," but was scored as a "1" for statistical purposes.)

As circulation and salary increased, so did the level of satisfaction among the photographers. From smallest to largest, the average scores were 2.56, 2.92 and 3.13. Taken as a whole, the average score for job satisfaction was 2.92, which might imply only a slight decrease from what it was 15-20 years ago because 3.0 represented "the same." Individual returns, however, showed that extreme scores (numbers 1 and 5) were almost evenly marked, cancelling each other out and producing an unrepresentative average score.

Asked to list the one worst part of the job, 41 percent mentioned some aspect of management. "Bad boss," scribbled a 43-year-old photographer from Arizona. "Taking orders from editors that have never been photographers or picture editors," wrote a shooter with 20 years experience in Virginia. "Younger, less-experienced, less-competent management," complained an Ohio photographer, summarizing the comments of several others.

The second most common gripe (made by 18 percent of the group) was for routine, stupid, or "garbage" assignments, such as a $15 check-passing presentation.

"Being overworked" was the third most frequent complaint (made by 15 percent of respondents). A Washington photographer at a large paper was irritated by having too many assignments: "Getting only 12 minutes to shoot a story the reporter's been working on for two weeks." Wrote a photographer at a medium-sized paper: "Having to do the halftone work for the newspaper." And from an under-50,000 Michigan daily: "Having too many things to do and not enough time." Several noted that they often worked overtime without pay, and had to process film for reporters and other departments.

Within each circulation category, photographers expressed concern that the corporate or profit-comes-first attitude had invaded the newsroom. This perception of business over news has been found to lower job satisfaction in other studies.[6] The

following comments are representative of those who blame business decisions for less travel, worse coverage, and/or a shrinking newshole.

♦ "The newspaper owners no longer care about quality, only about money." (45-year-old woman at a 100,000+ paper)

♦ "Dealing with publishers who don't appreciate the medium." (45-year-old chief photographer making $816 weekly with under-50,000 circulation daily)

♦ "They don't want photographers to stay longer than 3 years; they want to keep people under $8 an hour. Even though I continue to win awards each year, they make it clear to me that they want cheap labor, not awards." (47-year-old at under-50,000 paper)

But not all comments or findings from the survey spelled doom and gloom. Many reported liking work now as much as ever, and for a variety of reasons.

"I am just as happy with my situation now as I was 19 years ago," wrote a North Carolina photographer at a medium-sized daily. "Once a photographer, always a photographer." A south Florida shooter with 20 years experience and weekly pay of $1,000 found happiness at the first and only paper he has worked for: "I have many more opportunities now. I can pretty much cover what I want and have control over my assignment and photo usage."

Several respondents mentioned new technology boosting job satisfaction. From a small Pennsylvania daily, a 46-year-old wrote, "We have seen a tremendous improvement in the photo department -- better equipment and high-tech computers." A Georgia photographer, 45, felt the same. "The upgrade in technology is terrific," he said. And from a 100,000+ California daily, a shooter with 30 years experience commented, "Computers provide increased flexibility. There is improved image quality as a whole now. There's more photographing time." Another respondent mentioned that even film quality itself had improved, making the job easier and more enjoyable.

Asked to list the best aspect about work, statements about "being out there meeting people" came in first, mentioned by more than a quarter of the group. "Interaction with my subjects," wrote a 46-year-old woman from California. "The opportunity to observe and record human life in its many aspects and to meet many remarkable people," wrote another. "Traveling around the state, photographing its people, its situations, from travel to sports to fashion to news," summarized a 44-year-old former NPPA Newspaper Photographer of the Year.

Coming in second were comments concerning self-satisfaction. "Being handed a turkey assignment and coming back with a great image anyway" pleased a 51-year-old Ohio photographer. "Seeing my photo in the next day's paper and still getting a kick out of that!" wrote a New Jersey shooter at a 100,000+ paper.

Answers to the open-ended question indicated that lack of a daily routine also made work enjoyable. "Variety of circumstances and people in the work," wrote a Maryland shooter. "Different assignments, going into different situations," commented a photographer from Texas. "You get to see the other side of the tracks, how the other half do what they do."

External factors affecting work

Since it could be hypothesized that as any employee ages, he or she "settles down" for reasons other than just the job, the survey also included questions about factors outside the workplace that might indirectly lead to longevity with one employer.

The survey group was asked to score the importance of 12 items on the role each played in "keeping you where you are today, as opposed to seeking employment elsewhere for more money, status, picture play or a change of scenery" (1 = not important, 5 = very important).

By combining scores marked 4 and 5 (number 3 was considered neutral), two key factors stood out as significant in keeping photographers in a location regardless of

liking or disliking their newspaper jobs. The top influence marked was the statement "I feel established in the community," with high scores given by 65 percent of the group. "My lifestyle is basically comfortable" followed at 64 percent. "Spouse likes present location" was rated as important by 57 percent, and "Children are involved at school" was a factor for 52 percent.

The other situations were considered less important or neutral by a majority of the group. "I have great friends here" was a key factor for 45 percent, "Spouse has a good job here" affected 43 percent, and "Relatives in town" was important to only 32 percent. "The house would have to be sold" was a factor for 27 percent, "Moving is a lot of trouble" bothered 25 percent, "Freelance opportunities are good here" mattered to 21 percent, and "Involved in church" finished last with 16 percent marking it an important factor.

An opportunity to list other outside influences resulted in several comments. Two respondents noted how great the area was to live in. "Hey, this is sunny south Florida!" wrote one. Two people mentioned age discrimination as a factor for not looking elsewhere. "No one would hire me," wrote a 45-year-old Kentucky photographer.

Management's role

The effort of newspaper management in retaining and motivating senior photographers was addressed in one section of the survey. Respondents were asked: "What steps, if any, does your photo director take toward boosting morale for the staff, especially for photographers with experience like yourself?" There were 13 statements available to check, plus "other," and more than one statement could be marked. A sizable number of the respondents (42 percent) indicated that "Management gives no special consideration to experienced photographers," but checked off items that applied to the whole staff, regardless of age.

"I'm allowed to make extra money freelancing" was the top-scoring item, marked by 58 percent. Next was a tie: "Contest entry fees and related expenses are paid by the

paper," and "I'm allowed to cover stories where my expertise is particularly important" (48 percent). "Pay has increased steadily since I've been here" was marked by 42 percent.

Other efforts or policies controlled by management and the respondents' scores were: "I've given a good chance to pick the best assignments" (34 percent). "Someone often gets to go to the NPPA Flying Short Course" (33 percent), "I have a strong influence in picking my work hours" (33 percent), "I have a strong influence in picking my work days" (27 percent), "We have a title called chief or senior photographer" (20 percent), "I'm asked to sit in for the boss at editorial budget meetings" (17 percent), and "There are bonus incentives for excellent work or contest wins" (13 percent).

The three least-marked items were: "There is an effort to challenge senior photographers" (11 percent), "Boss treats us to a one-on-one meal for private discussion" (8 percent), and "Experienced staffers rotate through shifts at a newsroom picture desk" (6 percent).

On a separate question about moving from chemical darkrooms to computer workstations, the photographers were split when asked: "Do you think management has given you adequate training to keep up with the changing technology of the past 10 years -- increased color, computerization, scanning, transmitting, etc.?" Forty-eight percent of the group said "yes" while 40 percent said "no" (the others didn't respond or checked "not applicable.") Several photographers added notes, such as, "The training is largely self-motivated," "We learn through on-the-job training," and "There is little organized training -- it's mainly seat-of-the-pants style." This might be especially troublesome for older photographers who have no computer background from high school or college.

Karl Kuntz, assistant managing editor of graphics at the *Columbus Dispatch* in Ohio, sees poor training programs as a concern. "Some photographers are now trying to learn sophisticated computer programs without any training," Kuntz said. "(That's) one of the most serious problems concerning photojournalism at newspapers today. Newspapers must invest in training to ensure the best possible product."[7] The problem is not unique to

photographers. The Freedom Forum's Newsroom Development Survey found that lack of training plagued writers, editors and managers, too.[8]

Motivation of senior photographers

Recognizing that even a photojournalist's job could become routine -- always taking pictures, despite different subjects and locations -- motivation on a daily basis becomes an issue as the years go by. At some newspapers, that issue is handled by rotating staffers through work shifts of different hours and days. The photographer experiences a varied set of events, co-workers, deadlines, and even outdoor lighting.

Some photographers, usually with their publication's blessings, turn to contests for motivation and extra recognition. Sixty-nine percent of the survey group reported entering at least one type of contest on a regular basis, with the most frequently-entered competition being the NPPA Monthly Clip Contest. (Published photos, submitted as clippings, are judged outside each region, with winners advancing to a national round of judging each month. Top photos appear in *News Photographer* magazine.)

One survey question tried to pinpoint what led to strong motivation on a continuing basis. The group was asked: "Which *one* of the following has the biggest impact in keeping you charged up and interested in newspaper photography year-to-year?" Only one of the nine possibilities was to be selected, but instructions were apparently misread by several respondents who checked four or five items. After deciding to count responses selecting either one *or* two statements, it was evident that two factors emerged as prime motivators: "Interaction with other photojournalists on the staff" and "Shooting self-generated, personal photo projects." Both statements were selected by 29 percent of the surveyed group. Twelve percent were most motivated by "Satisfaction of seeing credit lines under published pictures," and nine percent were inspired by "Seeing what others were doing in *News Photographer* magazine." Five percent admitted "I wouldn't call myself charged up and overly interested," while three percent chose the

statement "Being involved with the Clip Contest or other competitions" as their prime motivating factor.

Six respondents (12 percent) checked "other" and offered comments about how they keep inspired at work: "Enjoyment of the craft and art of photography," wrote an Arkansas photographer. "Successful completion of assignments," noted a 65-year-old Virginian. Explained a Nevada shooter: "I have gained a reputation here and as a result I keep myself charged up to keep trying to do even better."

The final question on the survey asked for suggestions to give supervisors. How could management "improve the workplace for experienced newspaper photojournalists who will remain on-the-streeet shooters until retirement?"

Most answers reflected careful thought and not hostility.

♦ "Treat them with the same respect as other members of the editorial staff." (55-year-old staffer in Arkansas)

♦ "Praise your people; always make an effort to encourage. And keep us informed about things that affect our work." (52-year-old female photographer in the northeast)

♦ "Really listen to what experienced photographers have to say. Realize that managers and supervisors do not have a monopoly on good ideas and intelligent thought." (Pennsylvania photographer at a 100,000+ newspaper)

♦ "There should be an opportunity for advancement given the fact that one is a seasoned pro with credentials. Perhaps the title 'senior photographer,' with a grade promotion, an increase in salary, and some kind of photo specialization such as features or special projects." (New Jersey photographer with 20 years at his publication)

♦ "Communication. Find out what is in the senior's head and direct his energy. Find his virtues and exploit them. Motivation is the key." (Florida photographer with 30 years experience)

♦ "Have more shooters, fewer assignments, thus the chance to do each job better." (California woman at 100,000+ paper)

♦ "Give them the opportunity to take workshops and seminars regularly to stay current and fresh. Give them constructive criticism and feedback. Treat them with respect." (Washington photographer at under-50,000 newspaper)

Conclusions and Discussion

Despite the small sample size of this study, several conclusions might be drawn about American newspaper photographers past 40.

As a whole, they enjoy meeting people and feel connected to their communities -- an important attribute lately in the eyes of the corporate press.[9] They feel a sense of freedom by often being away from the office shooting assignments. They enjoy the satisfaction and pride of seeing credit lines under published photographs. They do wish that their experience was more valued in the newsroom, though, especially by younger reporters and editors. Some have increased their happiness by generating story and project ideas that are self-directed. They value co-workers as friends. Most seem fairly content with salary levels.[10]

Although Bissland's study lamented that a career ladder didn't exist in the mid-1980s for photographers (it still doesn't in the mid-1990s), many shooters in this survey expressed a true love for shooting pictures; they wouldn't want it any other way. The lack of advancement to another title or position, however, presents a frustrating problem to those photographers who think *some* reward should accompany seniority and longevity.

Several newspapers have taken steps to recognize the contributions of dedicated, long-term staffers -- "the lifers." The issue was addressed at least a decade ago at the *Hartford Courant* in Connecticut, where talented photojournalists were compensated with salaries similar to editors. Marty Petty, then-deputy executive editor for the 285-person newsroom said: "We have advanced scales for senior photographers and reporters so they can pursue their craft and succeed monetarily." She saw the raises as alternatives to

promoting creative people to desk jobs. "Just because they are good on the street and on deadline doesn't mean they are going to be good at managing people," she said.[11]

At the *Orlando Sentinel* in Florida, staff photographers can aspire to two other steps past entry level. With each promotion comes a raise of 10 to 15 percent, said Bill Phillips, director of photography. "Senior photographers" are expected to follow written standards of performance, such as constantly taking the lead, serving as mentors to other staffers, and working well without supervision.[12]

One reward that played a role in job satisfaction for several photographers who answered the survey was having some control over their work schedule. Among those who scored job satisfaction highest, more than half said they had "strong influence" in choosing work hours and days.

The Need for Additional Research

This report serves as only an introduction to the study of veteran photojournalists at America's daily newspapers. The examination should continue as educational levels rise among photojournalists, as new technology continues to affect the workplace and as increasing numbers of experienced journalists consider leaving the profession.[13]

As a parting note, one limitation of this particular study could be that only members of the National Press Photographers Association were chosen. It could be argued that their membership alone (which costs $55 a year) ensures some favoritism and interest in the profession; that is, NPPA members may be more satisfied with work than non-members in the 40+ category. Another drawback might be that a comparison of attitudes with younger photographers was not made. A sample of that group's responses to an identical questionnaire might show that the concerns of the older photographers are not so unique after all.

Finally, more research is needed that looks at the other side of a pressing issue -- newsroom management. Where do pictures editors come from? What qualifications do directors of photography have? Do managers receive on-going training about working with their staffs? These concerns also need to be explored as photojournalists continue to leave behind the darkrooms of yesterday for workstations in the newsrooms of tomorrow.

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Table 1: Average Characteristics of Survey Group

	Age	Years of Professional Experience	Years at Present Newspaper	Weekly Salary
papers with circulation under 50,000	48	19.5	16	$536.24
papers between 50,000 and 100,000 circulation	51	26.5	23.2	$660.80
paper with circulation more than 100,000	52	26.3	21.2	$863.99
all respondents	50	24.1	20.1	$695.75

n = 64 (except salary, n = 53)

Table 2: Present Job Satisfaction vs. 15-20 Years Ago

1 = less satisfaction now, 3 = the same now, 5 = more satisfaction now

under 50,000 circulation:	2.56
50,000 to 100,000 circulation:	2.92
more than 100,000 circulation:	3.13

Table 3: The Good and Bad Aspects about Work

Most frequently mentioned GOOD items:

* Being out there meeting people
* Self-satisfaction of doing good work
* Lack of a daily routine, variety of assignments

Most frequently mentioned BAD items:

* Poor management
* Routine, stupid or "garbage" assignments
* Being overworked, too many assignments, too little time

Table 4: Factors Outside Work Keeping Photographers Where They Are

(Percentages reflect item was selected as important by respondents, and multiple answers were allowed)

* I feel established in the community (65%)
* My lifestyle is basically comfortable (64%)
* Spouse likes present location (57%)
* Children are involved at school (52%)

Table 5: Motivational Factors: What Keeps You Charged Up?

(Respondents chose one from nine possibilities.)

* Interaction with photojournalists on the staff (29%)
* Shooting self-generated, personal photo projects (29%)
* Satisfaction of seeing credit lines under published photos (12%)

Notes

1. Jack McCloud and Searle Hawley, Jr., *Professionalization Among Newsmen*, **Journalism Quarterly**, 41(Autumn 1964), p. 537-41.

2. Jack W.C. Johnstone, Edward J. Slawski and William W. Bowman, **The News People**, (Urbana, Ill.: University of Illinois Press, 1976).

3. David H. Weaver and G. Cleveland Wilhoit, **The American Journalist: A Portrait of U.S. News People and Their Work**, Bloomington, Ind.: Indiana University Press, Second Edition, 1991). Their upcoming, follow-up book, **The American Journalist in the 1990s**, is based on a 1992 survey which includes photojournalists.

4. Beverly Bethune, *A Sociological Profile of the Newspaper Photographer*, **Journalism Quarterly**, 61(Autumn 1984), pp. 606-614. Bethune also published a study called *Photojournalists and the Electronic Revolution* as a report to the Cox Institute for Newspaper Management Studies in April 1991, in which she encouraged photojournalists to participate in newsroom management by assuming leadership roles with photojournalism's changing tools.

5. James H. Bissland, *The News Photographer's Career Ladder*, **News Photographer**, October 1984, special pull-out section. Bissland and David Kielmeyer also presented a paper at the 1992 AEJMC national convention entitled *Bypassed by the Revolution? Photojournalists in a Decade of Change*. The authors concluded that photographers were happiest at newspapers where a picture or graphics editor acted as a liaison between the staff and newsroom. Demographics from their survey also showed the mean age of NPPA photographers had risen from Bissland's previous study (from 33 to 35).

6. Keith Stamm and Doug Underwood, *The Relationship of Job Satisfaction to Newsroom Policy Changes*, **Journalism Quarterly**, 70(Autumn 1993), pp. 528-541.

7. Karl Kuntz, *Newspapers Must Invest in Training to Ensure Best Possible Photography*, **Newspapers and Technology**, December 1993, p. 7.

8. Dick Thien, *Teach Me, Train Me, Tell Me How I'm Doing*, **No Train, No Gain: Continuing Education in Newspaper Newsrooms**, A Freedom Forum Report, edited by Brian J. Buchanan, May 26, 1993, p. 15. This 36-page booklet is a preliminary report of key findings from The Freedom Forum Newsroom Development Survey, a 1992-93 survey of American journalists by The Freedom Forum with the Roper Center for Public Opinion Research.

9. See, for example, speeches published in the **Knight-Ridder First Quarter Report**, 1994 Annual Meeting, in which company executives discuss community involvement and

the importance of public service journalism. Also, see *The Wichita Experiment* in **Columbia Journalism Review**, July/August 1992.

10. Salary has not be found to be a significant source of dissatisfaction in other surveys. For example, in their updated report about American journalists (a 1992 survey), Indiana University researchers Weaver and Wilhoit listed it below eight other factors affecting journalists' ratings of their jobs. Of those who said they were unhappy, a little over half pointed their finger at management as the reason. See the booklet **Daily Newspaper Journalists in the 1990s**, a Report of Key Findings From a 1992 National Survey of U.S. Journalists, funded by The Freedom Forum.

11. John Freeman, *Photojournalism's New Breed and Their Stepping Stones to Success*, **The Rangefinder**, December 1986, pp. 38-41. The article looked at the common backgrounds of photographers who had advanced quickly from small newspapers to larger ones.

12. Personal phone conversation with Bill Phillips, director of photography, **The Orlando Sentinel**, July 20, 1994.

13. See *Job Satisfaction*, **APME News**, Vol. 203, October - December 1993, pp. 3-5. The report, based on a survey by Minnesota Research Opinion, pointed out that about 20 percent of the journalists surveyed said they planned to leave the profession. The article and sidebars made suggestions to stem the tide, including a call for editors to exert more leadership and less management.

PIECING TOGETHER THE AIDS QUILT STORY:

A MICRO-ANALYSIS OF THE INTERACTION OF TELEVISION NEWS' VISUAL AND VERBAL TEXTS

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In recent years, scholars in growing numbers have delved into matters which attempt to link the content of television news to larger societal questions in an effort to understand how the mass media both reflect and create culture. In order to accomplish this, researchers have been forced to find new tools with which to analyze television news texts. Simple content analysis techniques, while still useful, do not afford the opportunity for a deep reading of content, the kind necessary to explore television news (and other cultural artifacts) beyond a manifest level.

Furthermore, much of the available television news research ignores the very essence of what makes television dramatically different from its companion electronic medium, radio: visual texts. With few exceptions, television news' visual texts and the manner in which they interact with verbal texts has been largely ignored. Perhaps this is because of journalism's start as a textual medium rather than a visual one. Nevertheless, without an understanding of the interaction between these two different but related forms of communication, attempts to assess how meaning is created via television news cannot be fully successful. Thus, this study's dual intent is to deeply explore a single news story in order to draw some indication of how American culture portrays AIDS and to microanalyze the script to determine how visual and verbal texts interact with one another.

Visual analysis and television news texts

It almost goes without saying that in American society today, we are bombarded by visual texts. On a daily basis, we are bombarded with imagery, some of it familiar icons from the past which lack grounding in today's culture. Some researchers say that as a culture, we are endlessly circulating imagery (signs)

> – signs moreover which have lost all signifying capacity, all meaning in the traditional sense of the representation of the real. (Brantlinger, 1990, p. 173)

There is some indication that the Twentieth Century has moved us from a verbally-based culture to one for whom visual data is of paramount importance.

> For some seventy years the cleverest prophets have warned us regularly that the dominant art form of the twentieth century was not literature at all – nor even

> painting or theater or the symphony -- but rather the one new and historically unique art invented in the contemporary period, namely film; that is to say, the first distinctively mediatic art form. (Jameson, 1991, p. 68)

Jameson's comments could easily be extended to the realm of television, which borrows many of its conventions from the cinema.

> Broadcast TV adopted the studio production methods that were developed in the classic Hollywood cinema, and imitated by film industries everywhere. (Ellis, 1982, p. 211)

Obviously, the number of Hollywood studios that are involved in both the cinema and television programming indicates that the two fields are interrelated, even permanently conjoined. While Ellis points out that there are substantial differences between the two, he indicates that they are primarily financial in orientation, with television being more immediately concerned with the bottom line.

But there are more differences than meet Ellis' eye -- aesthetic differences in the professional codes of television, and more specifically, differences in the visual codes of television news versus prime-time programming. Most research conducted on the visual analysis of television news has concentrated on manifest content or audience interpretations of messages. The influence of camera angle and subject expressions and actions on audience interpretation of the camera's subject has been studied (Mandell and Shaw, 1973), as well as the effect that camera angle has on source credibility (Tiemans, 1970; McCain, Chilberg and Wakshlag, 1977). These studies concluded that camera shots taken from above eye level connote subject weakness, while those taken from below looking up toward the subject monumentalize the subject. McCain, et al. (1977) argue, however, that camera shots facing the subject directly and from a slightly elevated position put the subject in a more positive light. Using this technique, the audience views the subject at almost eye level, and thus, psychologically, as an equal.

While the above-mentioned studies provide some data to simplify analysis of visuals, their methods tend to present visual stimuli in a context foreign to the television experience. Just as one is unlikely to watch a movie with the sound turned off, television news audiences are expected to

both *listen* to the audio track and *watch* the video. But visuals are not merely interesting pictures to accompany words. Visuals can be used to create new and alternative narratives within the confines of the news report. They can be used to confirm or deny the stories being told verbally by the newscaster. It is necessary to look at overall story presentation to determine how images create a new narrative or support an existing one in the audio track, and how the news package reflects American culture.

With the advent of our increasingly visually-oriented society, Jameson argues that the methods which have been employed to analyze visual texts (mostly linguistic in orientation) are antiquated, and must be improved. The visual can no longer take a back seat to the verbal in analysis of visual-aural texts. While Jameson's text concentrates primarily on what he calls, "video art," a search of available literature indicates that there is little available research on the visual texts of television news. Thus, we are left with the need to devise new strategies for analysis of television texts; strategies which incorporate, rather than ignore, the visual.

In most television news research, one of two paths could be taken to interpret television form, the conventional and the organic (Barton and Gregg, 1982). Most researchers emphasized the conventional – the technical processes shaping the news story (camera angle, size of shot) – while the organic form suggests something more intangible; the underlying principles directing content toward a particular construction of meaning. In essence, there exists within the encoder's deliberate structurings evidence of a specific pattern in the way news facts coalesce in packages. In speaking about television news coverage of conflict in Northern Ireland, Stuart Hall points out that, from the perspective of a journalist, you

> ...can't develop an account of it out of absolutely nowhere every time you tell the story. You constantly draw on the inventory of discourses which have been established over time. I think in that sense we make an absolutely too simple and false distinction between narratives about the real and narratives of fiction. (Hall, 1984, p. 6)

Put another way, narrative inevitably imposes constraints on the content of a broadcast news story.

> The verbal, then, functions on the side of continuity and intelligibility, the visual on the side of heterogeneity and semantic dispersion. (Robinson, 1984, p. 202)

When critics describe television news as "radio with pictures," it belittles the richness of meanings created within the visual 'text,' as well as the interplay between visual and aural texts. Because television news stories constitute a complex set of traditions, aural as well as visual, it is important that research assimilate these in some fashion.

One exception to the available research is a 'microscopic...formal' analysis of news presentation of Middle East conflict. Barton and Gregg (1982) examined one week of coverage of the Israeli-Palestinian controversy in 1978. The authors state that certain visual and textual production techniques allow television journalists to convey authority and to maintain the authenticity of a news story. Further, the authors suggest that the construction of news stories serves to emphasize the future, as well as an expectation among viewers that such journalistic "predictions" are linked to immediate events being reported. When media predictions come true, "an aura of authoritativeness can redound throughout the forms of future prediction" (Barton and Gregg, op.cit., p. 180). One of their most important conclusions is that reporters employ specific visual imagery to achieve journalistic balance. This implies that the visual text presents information that is complementary, but not necessarily supportive, of the verbal texts. Although the intention behind the research was to provide a unified analysis of the visual and aural texts, it subsequently separates them into two barely-merged sets of data that only come together temporarily near the end of the essay.

Visual analysis of television news is based, to a great extent, on studies of motion pictures. Most of the motion picture studies analyze each image, its relationship to others and the culture in which it was created. Images are merely referents to an existing object (Barthes, 1968; Bennett, 1982), and these referents come with "extra baggage," allowing audiences the ability to interpret them within their specific cultural framework. Images have a surface (denotative) meaning and

several layers of deeper (connotative) meaning. Members of a given culture learn how to decode in a manner consistent with their culture:

> The image is experienced as both an optical and mental phenomenon. The optical pattern is read saccadically; the mental experience is the result of the sum of cultural determinants, and is formed by it. (Monaco, 1981, p. 144).

From a researcher's point of view, the meaning of an image-text, to be fully understood, must be explored within the cultural context presented and not merely interpreted at surface level.

It is hypothesized that the desire for narrative closure (tying up the loose ends of a story) in the aural script should also be evident in the visual script. Curtin (1993) describes how closely early television news documentaries followed the presentational techniques in movies.

> The shooting styles and editing techniques of Hollywood were closely observed so that the network documentary would come across to its audience as a realist text, a "natural" representation of the everyday world. (p. 29)

Using the cinema as the basis for visual analysis of television news, it seems evident that most television news stories should follow a pattern which Shook (1989) calls the *mini-movie*. In this view of television news, the visual text moves from an expository beginning (long shot – stating the problem) through a series of conflicts (medium shots and close-ups allowing the principals to tell the story) which conclude in a resolution, possibly in the form of a long shot to return us to the starting point.

In aural narrative, temporal and locational transitions are simple to create, but the same cannot be said for visual narrative. Even though there may be distinct transitions between shots (via cuts, dissolves, fades, or wipes) discrete images may be linked together in a *syntagma*, creating a "seamless" presentation describing a particular object in time (Metz, 1974).

Much in the spirit of Manoff (1989), this essay will present the visual and aural text of the television news report, "breaking into the flow" (p. 62) to point out significant images and textual strategies. The package I have selected to evaluate is an extraordinary one in the way it

characterizes persons with AIDS, their family members and friends. There is a hint of compassion that is often missing in other stories. Also, the story develops a visual narrative in a manner that is highly diachronic. It effortlessly weaves visual texts and subtexts throughout the package, moving viewers through various event times via flashbacks defined by slow dissolves. The standard cut from scene to scene which is more typical within television news is used primarily during the opening sequences when the story is being set up and defined.[1]

Analysis

The package begins as all do, with the anchorperson (Connie Chung) sitting in front a world map, a setting which implies that NBC news "covers the world" and that we can be better informed through its newscast.

CC: *Reports about the AIDS virus and its terrible toll in human lives seem to always be with us.*

In truth, there is no AIDS virus. AIDS is the result of a series of infections brought on when the body's immune system has been weakened by Human Immuno-Deficiency Virus (HIV). HIV is a virus; AIDS is the resultant syndrome. While all persons with AIDS are HIV-positive, not all HIV-positive persons have AIDS. "AIDS virus" is a short-cut term that journalists and others use to (improperly) categorize people who have full-blown AIDS.

CC: *What's rarely reported and hard to depict is the awesome courage of many of those victims who, until the end, work to relieve the pain of others.*

The choice of words here implies a defensive posture. It seems to be a convenient explanation or excuse for why coverage of AIDS had been criticized by many as incomplete. It also points out

[1] The package aired on NBC on 4/9/88. A full script is included at the end of the paper.

journalism's difficulty explaining abstract or non-concrete attributes (such as courage). The end of this sentence implies that death is the inevitable consequence of AIDS.

CC: *Now a group called the Names Project has found a way to build a continuing memorial to those victims, and it was unveiled last night. Lucky Severson has more from Los Angeles.*

More language is presented indicating the inevitability of death. Now, however, we have a concrete icon to show the abstraction – the quilt.

CROWD SINGS: "REACH OUT AND TOUCH SOMEBODY'S HAND..."

The camera pans left across the crowd, while the crowd chants the Motown classic in unison and holds hands. There is a feeling of religion and spirituality in this section of the story.

There's never been anything like it.

This simple statement places AIDS among the most wide-ranging and deadly medical crises in history. To spawn such a gathering, there must be a wide spectrum of people affected by AIDS.

Friends, sisters, brothers, lovers, mothers, fathers, surrounded by an overwhelming expression of love and sorrow.

The visuals in this package are a very literal interpretation of the verbal text. A woman is shown, the text mentions "sisters." Two men embrace and they are loosely defined as either "brothers" or "lovers" (although they could be friends or strangers caught up in the emotion of the situation). An older woman and an older man embrace while the narration refers to "mothers" and "fathers" – they may not be either. The narration is almost poetic, forcing the audience to consider the sheer number of people affected, and more significantly, the apparent similarities to themselves.

A quilt of memories so large, pieced together it would cover three football fields. It brings to life the death it symbolizes. It's a collection of 4-thousand panels ...

The first two sentences personify the quilt, giving it human attributes and emphasizing the magnitude of the epidemic. The second sentence is particularly interpretive; it is unusual for a television news package. During the second sentence, the visuals portray two men looking down at the quilt. One is crying. These images reinforce the emotional stance taken by the verbal text.

each one remembering

A three shot syntagma begins here by giving names and characterizations to those individuals who have died of AIDS.

a victim of the impersonal epidemic we call AIDS.

The verbal text suggests that there are people behind the cold mortality statistics reported on AIDS. Visually, they are seen as people who led normal lives. Thus, the quilt panels, as shown in the story, tell stories at a personal, more empathetic level.

Each one stitched together by those who shared the pain ...

Not only are PWAs affected by AIDS, their friends, relatives and lovers "share the pain." This sentence makes it clear that they are indirectly connected to the epidemic and also suffer because of the disease. A dissolve midway through this text signals a transition from the quilt in its finished state to images of people constructing the quilt. The dissolve serves as a flashback device. A four shot syntagma reflecting the memories of those affected begins in the second part of this text.

like Helen Claire Cox.

Now, the story becomes firmly entrenched in the personal. Personal stories are presented to allow the audience to put "faces" on the suffering loved ones, thus increasing empathy, or at minimum, interest in the story.

HC: *Gosh, I remember when he... that was the most exciting moment of his life.*

Her son Andy was a Continental flight attendant who fought to stay alive and he made his fight public on stage and television to give other AIDS victims courage, his mother always by his side.

AC: *I knew my mother was pretty strong, but I didn't realize how strong.*

Andy died last year, but his mom ...

In the verbal part, the audience is presented with a flashback through Helen Claire Cox' memories of her son. Viewers are brought deeper into the past when Andy is actually seen and heard. Once again, the reporter chooses the words "courage", "fight" and "fought" to describe what PWAs and their loved ones face. Andy Cox refers to his mother's "strength" in adverse times. Visually, the dissolve, which starts with Severson's narration, puts the story back further in time to when Andy Cox was still alive. The style of narration (using flashbacks) emphasizes that the quilt seems to bring people back to life, in a metaphorical sense. Here, Andy Cox is brought back to life via videotape excerpts within the news report. Shown are his activism and his relationship to his mother.

... is still fighting. The quilt is important to her.

With a quick statement and a cut to Helen Claire Cox working on the quilt, the audience is returned to the first flashback wherein the PWA is dead and his loved ones are remembering him via the quilt. The phrasing in relation to the visuals is very significant here. Severson mentions Cox's mother, and we are visually returned to the original flashback in time to hear Severson say she "is still fighting."

HC: *It has pulled a lot of people together to work on something that's really inspiring and I think can reach out to touch the whole*

country. (pauses...crying) I think it's a really neat thing. I wish Andy was here to share it.

A new syntagma brings the story back to the "present." The quilt section has been completed. Verbally, we have the completion (closure) of Andy Cox's story. Helen Claire Cox broadens the perspective, reminding the audience that AIDS touches "the whole country" and the implication is that viewers should be sympathetic. The audience should "share it." Her crying adds emotional impact. The phrase "reach out and touch" (used in the chant/song at the beginning of the story) is echoed here.

AF: *It's something nice that's... that we're doing about him and for him. Annabel and Jerry Fried had a remarkable little boy who loved trains. They called him Zack.*

Visually, an abrupt shift occurs here to focus on another panel. This is signaled via a new camera angle and the presence of a new quilt panel. Verbally, the term "remarkable" is a sign-post that indicates how Zack should be interpreted. The expectation is that the story will explain why he is remarkable soon, which it does. In referring to Zack's love of trains, the specific is once again called upon to put a more familiar and sympathetic face on what would otherwise be just another child, or just another PWA.

He was born premature and had several operations. The day after they were told he was finally going to be alright, they found out a blood transfusion had infected him with AIDS.

The explanation for why Zack is "remarkable" is provided. These statements also suggest that he is among those in the category of "innocent victim". The verbal text is complimented by a three-shot syntagma, which flashes the story back to the life of the child, one not unlike any other child, given this visual evidence.

AF: *Every single moment is worse. Waking up in the morning is worse – than not having him there to read a story to at night – is worse than not having him there at lunchtime – is worse than not having him there all the time – is worse than working on the quilt.*

This quote speaks to the hopelessness and frustration caused by their inability to do anything for Zack and the fact that they miss him. Working on the quilt allows them to make him seem alive again, bringing them close once again. Visually, the close-up of Annabel Fried heightens the emotional impact.

JF: *Also, there's something mechanically alive about a quilt. It doesn't stay there like a stone wall. It ...*

The story takes a dramatic turn at this point. Annabel Fried's quote spoke to the frustration and anguish of missing Zack (as representative of PWAs in this story). Suddenly, Jerry Fried provides a spiritually-upbeat explanation of what the quilt does for them in a psychologically-therapeutic way. He compares the quilt to memorials that are made of stone – the quilt is not immovable.

JF: *... flutters in the breeze, it does tricks when you pick it up – it's alive, and that means something to me.*

A dissolve takes viewers into a shot which shows the animated qualities of the quilt while Jerry Fried eloquently describes them. Visually, the quilt flows over air currents – it is alive.

MUSIC UP AND UNDER: VOICES SINGING REACH OUT AND TOUCH SOMEBODY'S HAND

A dissolve takes the audience out of Zack's story and back to where the report started. A panel is installed in the quilt while the "Reach Out and Touch Somebody's Hand" theme is echoed a third time.

The quilt is going on a fund-raising tour to 20 cities around the country.

The news peg, unusually, is here at the end of the story.

Those who have felt the pain hope to get us all involved -- to put a face on suffering that ...

The final images are of mutual compassion, sympathy and understanding. The phrase "get us all involved" reminds the audience that this is mostly happening to "them" not "us." In other words, *we* are not involved (but should be -- at least through empathy). "Putting a face on suffering" summarizes the intent of the story. The package does put faces to the statistics.

... seems unending. Lucky Severson, NBC News, Los Angeles.

The end of the statement implies that the times are not getting any better -- the epidemic continues to spread.

MUSIC CRESCENDO UP AND OUT

The story ends with an emotional and musical crescendo.

Conclusions

Severson's story is hardly a classic example of the broadcast journalism typically presented by ABC, CBS and NBC. It is, in fact, remarkable in its attempt to present its subjects in a sympathetic manner through the use of sophisticated visual techniques. These also serve to emphasize changes in the story's diachronic flow.

Kozloff (1987) notes that there are two different time discourses at work within television news broadcasts; *real* time (the moment that the audience receives the message) and *event* time (the

moment the event actually took place). This story operates within *three* distinct time periods. There is the present, as defined by the time in which the reporter is narrating events, and there are two levels of the past. Specifically, a double flashback sequence takes the story from the "present" into the past (a dead PWA's parent creates a quilt section) and then further, into a time period when the PWA is still alive and interacting with the principals in the "present" story. Each change in time is accompanied by a dissolve.

It is noted that at times, the need to link iconic images with text creates potential misunderstandings, as noted in the opening sequence of the field report. Here, people are conveniently labelled according to appearance -- assumptions that may be incorrect. An older couple are labelled as parents, although they may not be. Two men hug, clearly saddened by a particular quilt section; they are referred to as brothers or lovers. Such short-cuts may be inevitable in television news' version of storytelling.

Even though it has many of the same problems as typical television news packages, this particular package presents a variation on television news' traditional approach to storytelling. It affords the viewer the opportunity to get more deeply involved in the text. Thus, we must evaluate it as a new variant of television news storytelling, one which is flashier and perhaps more likely to maintain an audience's attention.

SCRIPT

CU CC IN FRONT OF WORLD MAP	CC: REPORTS ABOUT THE AIDS VIRUS AND ITS TERRIBLE TOLL IN HUMAN LIVES SEEM TO ALWAYS BE WITH US. WHAT'S RARELY REPORTED AND HARD TO DEPICT IS THE AWESOME COURAGE OF MANY OF THOSE VICTIMS WHO, UNTIL THE END, WORK TO RELIEVE THE PAIN OF OTHERS. NOW A GROUP CALLED THE NAMES PROJECT HAS FOUND A WAY TO BUILD A CONTINUING MEMORIAL TO THOSE VICTIMS, AND IT WAS UNVEILED LAST NIGHT. LUCKY SEVERSON HAS MORE FROM LOS ANGELES.
PAN LEFT ACROSS CROWD HOLDING HANDS, SWAYING IN UNISON.	VOX: (CROWD SINGS) REACH OUT AND TOUCH SOMEBODY'S HAND... LS: THERE'S NEVER BEEN ANYTHING LIKE IT.
MS 3-SHOT, A WOMAN IS CRYING, TWO MEN LOOK TOWARD HER SYMPATHETICALLY. THEY ARE HOLDING ONE ANOTHER.	FRIENDS, SISTERS,
MS 2 MEN EMBRACE	BROTHERS, LOVERS,
2-SHOT, WELL DRESSED WOMAN AND MAN EMBRACE	MOTHERS, FATHERS
LS 3 MEN LOOK SADLY AT QUILT ON FLOOR	SURROUNDED BY AN OVERWHELMING EXPRESSION OF
SAME 3 MEN FROM BEHIND. MAN IN CENTER HAS ARMS AROUND OTHER TWO.	LOVE AND SORROW.

PAN AND TILT ACROSS QUILT SECTIONS ON FLOOR		A QUILT OF MEMORIES SO LARGE, PIECED TOGETHER IT WOULD COVER THREE FOOTBALL FIELDS. SO PERSONAL, IT BRINGS TO LIFE
WS 2 MEN LOOK DOWN. QUILT NOT VISIBLE. ONE CRIES AND WIPES TEARS WITH CLOTH.		THE DEATH IT SYMBOLIZES.
WS 2 MEN FROM BEHIND LOOK DOWN AT QUILT.		IT'S A COLLECTION OF 4-THOUSAND PANELS,
CU QUILT PANEL SAYS ZACK		EACH ONE REMEMBERING
CU QUILT PANEL SAYS MIKE WOOLRIDGE. 7-POINTED GOLD STAR AND THE NUMBER 737 ON IT.		A VICTIM OF THE IMPERSONAL EPIDEMIC WE CALL AIDS.
CU QUILT PANEL SAYS ANDREW HIATT.		EACH ONE STITCHED TOGETHER
DISSOLVE TO WS HC AND MAN WORKING ON QUILT PANEL OUTDOORS.		BY THOSE WHO SHARED THE PAIN.
CU HC		LIKE HELEN CLAIRE COX.
CU HAND ATTACHES PIN WITH WORDS ANDREW AND CALIFORNIA WRITTEN ON IT	HC:	GOSH, I REMEMBER WHEN HE...
WS QUILT WITH PIN AND OTHER MEMENTOS ATTACHED		THAT WAS THE MOST EXCITING MOMENT IN HIS LIFE.
DISSOLVE TO MS ANDY ON STAGE. CAMERA FOLLOWS TO	LS:	HER SON ANDY WAS A CONTINENTAL FLIGHT ATTENDANT WHO FOUGHT DESPERATELY TO STAY ALIVE AND HE MADE HIS FIGHT PUBLIC

LEFT AS OTHER MAN WALKS ON.		ON
ANDY AND HC IN 2-SHOT ON A "MORNING SHOW" SET		STAGE AND TELEVISION TO GIVE OTHER AIDS VICTIMS COURAGE,
CU HC		HIS MOTHER ALWAYS BY HIS SIDE.
CU ANDY	AC:	I KNEW MY MOTHER WAS PRETTY STRONG, BUT I DIDN'T REALIZE *HOW* STRONG.
WS ANDY, HC OUTDOORS	LS:	ANDY DIED LAST YEAR BUT HIS MOM
HC AND MAN IN WS CONSTRUCT QUILT		IS STILL FIGHTING. THE QUILT IS IMPORTANT TO HER.
CU ANDY'S QUILT SECTION	HC:	IT HAS PULLED A LOT OF PEOPLE TOGETHER TO WORK ON SOMETHING
MS 2-SHOT HC AND MAN		THAT'S REALLY INSPIRING AND I THINK CAN REACH OUT TO TOUCH THE WHOLE COUNTRY. (PAUSE – CRYING) I THINK IT'S REALLY A NEAT THING. I WISH ANDY WAS HERE TO SHARE IT.
MS FROM ABOVE WOMAN STUFFS QUILT SECTION, ZOOM OUT TO WS.	AF:	IT'S SOMETHING NICE THAT'S...THAT WE'RE DOING ABOUT HIM AND FOR HIM.
2-SHOT WS AF AND JF CONSTRUCT QUILT (LOW ANGLE)	LS:	ANNABEL AND JERRY FRIED HAD A REMARKABLE LITTLE BOY
WS 4 PEOPLE WORK ON ZACK QUILT SECTION		WHO LOVED TRAINS. THEY CALLED HIM ZACK.
BLACK & WHITE CU PHOTO OF ZACK IN FIREMAN'S HELMET		HE WAS BORN PREMATURE AND HAD SEVERAL OPERATIONS. THE DAY AFTER
DISSOLVE TO CU PHOTO ZACK (B&W)		THEY WERE TOLD HE WAS FINALLY GOING TO BE ALRIGHT, THEY FOUND OUT

BEST COPY AVAILABLE

DISSOLVE TO CU PHOTO ZACK PLAYING	A BLOOD TRANSFUSION HAD INFECTED HIM WITH AIDS.
	AF: EVERY SINGLE MOMENT IS
CU AF	WORSE. WAKING UP IN THE MORNING IS WORSE THAN NOT HAVING HIM THERE TO READ A STORY TO AT NIGHT IS WORSE THAN NOT HAVING HIM THERE AT LUNCHTIME IS WORSE THAN NOT HAVING HIM THERE ALL THE TIME IS WORSE THAN WORKING ON THE QUILT.
2-SHOT MS AF/JF	JF: ALSO THERE'S SOMETHING MECHANICALLY ALIVE ABOUT A QUILT. IT DOESN'T STAY THERE LIKE A STONE WALL. IT
DISSOLVE TO WS FROM ABOVE OF QUILT BEING PICKED UP AND ROTATED	FLUTTERS IN THE BREEZE, IT DOES TRICKS WHEN YOU PICK IT UP – IT'S ALIVE, AND THAT MEANS SOMETHING TO ME.
DISSOLVE TO WS 2 PEOPLE LAYING NEW SECTION OF QUILT	MUSIC UP AND UNDER: VOX SINGING REACH OUT AND TOUCH SOMEBODY'S HAND
	LS: THE QUILT IS GOING ON A FUND-RAISING TOUR TO 20 CITIES AROUND THE COUNTRY.
CU 2 MEN IN SILHOUETTE EMBRACING	THOSE WHO HAVE FELT THE PAIN HOPE TO GET US ALL INVOLVED –
CU MAN WITH HAND ON CHIN IN SILHOUETTE	TO PUT A FACE ON SUFFERING THAT
WS HC WALKS UP, EMBRACES MAN AT QUILT SHOWING.	SEEMS UNENDING. LUCKY SEVERSON, NBC NEWS, LOS ANGELES.
	MUSIC CRESCENDO UP AND OUT

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The Burden of Visual Truth: The Role of Photojournalism in Mediating Reality

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ABSTRACT

This paper presents results of an ethnographic study of photojournalism practice at nine newspapers ranging from small-town to metropolitan dailies. The study examined photojournalism in the context of frame analysis, social construction of reality theory and visual perception theory. Results suggest that although photojournalists acknowledge the subjective nature of their vision, they, their editors, their subjects and even their viewers are still using news images as if reporting objective reality is possible. The author concludes that new technologies are leading photojournalism toward stricter ethical standards, which ultimately may further empower photojournalism as one of few remaining conveyors of reasonably true news.

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The Burden of Visual Truth: The Role of Photojournalism in Mediating Reality

The nineteenth century began by believing that what was reasonable was true and it wound up believing that what it saw a photograph of was true--from the finish of a horse race to the nebulae in the sky (Ivins, 1978).

The twentieth century began by believing that what it saw a photograph of was true and wound up by knowing, at least on a cognitive level, that many things that seemed to be visually true were not. Yet photojournalists still rely on the idea that somewhere deep inside the human creature is the basic belief that what one sees with one's own eyes is true --and that viewing a photograph is the next best thing to being there. Can it be that in spite of all we know about media manipulations in advertising, entertainment--and even news--that we still believe what we see, and that's why the media are so effective?

Many photojournalists will agree that they can and sometimes (perhaps even often) do manipulate their subjects and, therefore, reality (Reaves, 1993; Brink, 1988). However, this study is based on the hypothesis that editors, photojournalists, their subjects and perhaps even their viewers still carry an intuitive core belief in the fundamental veracity of images made with a camera, particularly when those images are of "real people" and "real events," have the look of "reality" and are published as "reality." This study further argues that this core belief in visual truth governs behavior with images and image making.

This paper presents results of an ethnographic study of the process through which journalistic photographs are created and published. The researcher observed daily practice at nine newspapers, interviewing and photographing editors and photojournalists at work to find out what some members of those groups believe about the production and use of still news photographs and how those groups adapt their behavior and thought processes as a result of those beliefs. The product of the study is a set of clues about photojournalistic practice leading to specific recommendations for changing the rationale, production and use of still news photographs. Results can be used to revise photojournalism and media literacy curricula, and as an impetus for future empirical testing.

Theoretical Approaches

The underlying theoretical bases for this study were derived from frame analysis (Goffman, 1974), social construction of reality (Berger and Luckmann, 1967, and Tuckmann,1978) and visual perception (Gregory, 1970; Arnheim, 1969 and 1974; Gombrich, 1961; and Gombrich, et al., 1972). The study explores the idea that although the constructionist-mediated-subjectivist epistemological frame may be generally accepted in the theoretical literature of communication and other social sciences, few editors, photographers, art directors, educators, subjects or readers/viewers have translated those views into constructivist practice in the production of news images or in the use of news media. The study also will draw from research in visual perception indicating that even when we know cognitively that something we see cannot be true, "it is extremely difficult for us to see correctly" (Gregory, p. 56). One of the researcher's primary goals is to advance visual theory by integrating and applying these three theoretical strains to the analysis of current photojournalistic practice and use. The researcher is convinced this sort of complex cross-theoretical approach is essential to meaningful research in visual communication.

One particular concept explored in the study, objectivity, has been the subject of an enormous body of literature in media criticism. Discussions about the media at least until mid-twentieth century emphasized the need for objective reporting by word journalists, and textbooks taught ways to achieve the goal of supposedly unbiased information. During the last 30 years media research has increasingly supported the idea that objectivity actually is an unobtainable value, a myth, a societal ritual, an organizational routine or a fall-back ideology to protect the hurried journalist in everyday practice (Goffman, 1974; Tuchman, 1978; Shoemaker and Reese, 1991). Social scientists and natural scientists alike have come to question everything from the scientific method to our ways of understanding the world and ourselves (Berger and Luckmann, 1967)

However, little attention was given in the early part of this century to the need for objective <u>visual</u> reporting, perhaps because so much attention was given to words and because of assumptions that photographs were "exactly repeatable pictorial statements" that did not lie (Ivins). In spite of the fact that photographs have been overtly manipulated almost since the invention of photography, little attention was paid to <u>overt</u> manipulation by visual journalists--much less to <u>covert</u> manipulation--until the development of literature in photojournalism ethics over the last 15 to 20 years. Codes of ethics for photojournalists now insist that no news photograph should be staged, posed, set up or recreated (Reaves, 1993). All of this is carefully conducted in pursuit of the journalistic ideal of objectivity--which, by tradition, we have been led to believe gives a measure of so-called objective truth.

This study examines issues of photojournalistic objectivity and visual truth by questioning whether most people, including photojournalists and their editors, translate the idea that reality is mediated into everyday production and use of news images. The study argues that the objectivist tradition dies hard, that news practitioners, especially editors,

photojournalists and even photojournalism educators, for the most part, still function on the deeply imbedded assumption that there is a reality "out there" to be objectified, documented, photographed, written about, studied, observed, captured, revealed or taken--rather than created, manipulated, managed, staged, mediated or constructed. The core hypothesis of this study is that the fundamental belief in the veracity of observable phenomena still governs practice and use of visual news media.

Of course, the researcher had to acknowledge going into the study that she did not expect to find "objective truth," any more than she believes there is an objective truth to be found. Nevertheless, it seemed evident that studying the process of contemporary photojournalistic practice from start to finish might help us understand more about how we come to view our world, particularly how we come to know our worlds through newspaper photographs. At the very least, I hoped to determine what some editors, photojournalists and subjects think they are doing, what some viewers think they are seeing, and what this observer thinks is going on in current newspaper photojournalism. I began the study with the confidence that even if my hypothesis--that editors and photojournalists still base their practice on belief in the fundamental objectivity of the camera--proved to be false, I still would gain important information: that, in fact, we are better off in terms of producing and understanding media information than many of us think we are. To take this argument one step further: I reasoned that even if I found that no one believed photojournalistic images are credible/objective/truthful, and that everyone believed all news images are constructions, I would nevertheless find editors and photojournalists and even subjects still acting as if the images were objectively true (Shoemaker and Reese). In that process they still decide what the images will be, and research strongly suggests that what we see we remember, even if we know what we see is a lie (Graber, 1990).

Research Questions

This study examines parts of the complex process of human interaction that results in a published newspaper photograph (Newton, 1984). Concepts involved include a confusing, overlapping array of terms--such as, journalistic routines of objectivity, the myth of objectivity, social reality versus objective reality, representation of subject/object, straight photography versus manipulated images, and the nature of visual perception. This study did not seek to produce quantitative data defining such concepts or testing empirical hypotheses incorporating those concepts. Rather, the study sought to use a qualitative approach to explore such concepts and to look for possible new interpretations or patterns of behavior by asking several key questions:

- What do editors believe they are doing when they assign a photographer to a story or select a photograph to publish?

- What do photojournalists believe they are doing when they "take" or "make" a photograph?

- What do subjects believe they are doing when they are photographed for a newspaper?

- What do viewers believe they are seeing when they glance at a photograph in a newspaper?

- What can a participant observer determine by watching the process closely and talking with its protagonists?

These questions were not phrased from the arrogant research standpoint of "What the heck do these people think they are doing?", but rather from a sincere desire to know what we think we are about in this important profession of photojournalism.

Method

This study examined these issues through a qualitative fieldwork project in which photojournalistic images were tracked from inception in the news room or life occurrences through the photojournalist's and subject's image-making processes, through the editing and layout process, through the publishing process. I set out to observe practice at three newspapers ranging from a small-town daily to a major metropolitan newspaper. With the support of two university grants, I observed photojournalism practice at *The Albuquerque Journal*, *The Albuquerque Tribune*, *The Atlanta Journal-Constitution*, *The Los Angeles Times*, *The Nashville Tennessean*, *The San Angelo Standard-Times*, *The Seattle Times*, *The Sydney (Australia) Morning Herald*, and *The Washington Post*. Ethnographic methods, including participant observation, note taking, interviewing, tape recording and still photography were used to obtain and record verbal and visual data during image-making events. I talked with editors and managing editors, photojournalism educators, cab drivers and fellow train riders. I went with photojournalists on assignments ranging from photographing a $15,000 goat to staking out a senator's office on Capitol Hill. I flew thousands of miles, shot dozens of rolls of film with a trusty Nikon F2 Photomic and a 28-mm lens, filled dozens of note pads, recorded days of tape, and have spent months thinking about and analyzing the data I gathered.

Results

The most exciting finding was the idea that photojournalists hold the key to their survival in their ability to translate real-world experiences into reasonably accurate still photographs for publication. I did find support for my theory that even though photojournalism professionals may acknowledge that reality is subjective, they still practice as if reality can be objectified. Another exciting and unanticipated finding was the rediscovery of a vital, dedicated, energetic group of visual journalists committed to presenting the

best truth they can--every day. Another important finding was the urgency for an efficient, ethically strict system for archiving digital images at newspapers.

Critical to note is the fact that the conclusions I am reporting are drawn from my own subjective observations and analyses of verbal and visual information. I have tried to remain as neutral an observer as possible, but I have to admit to the joy I felt as a participant observer in the newsroom and during assignments. Also important to point out is that the study is based on qualitative information; the conclusions are not statistically generalizable. My observations, conclusions and recommendations are my best interpretation of what I saw, heard and felt during a year of critical, deliberate study.

Hypothesis and Research Questions

I will begin my discussion of results by the answering the questions originally posed. First, my observations suggest strong support for the core hypothesis, that the fundamental belief in the veracity of observable phenomena still governs practice and use of visual newspaper journalism. The practice of photojournalism continues as if it is an objective practice. Most photojournalists and their editors adhere to the idea that photographs--even news photographs--may be mediated in the sense of lens, angle and distance choice; timing, editing, and captioning influences, and so forth. However, the discourse of many of these dedicated professionals expresses a confusion typical of our post-postmodernist times: they know about contemporary theories of mediated reality and they talk a good game; but at least some behave as if there is still an objective reality to be photographed, and further, they overtly and covertly manipulate subject matter as routine practice. Examples of this conflict in discourse and practice include: "Of course I don't tell my subjects what to do" (but often they do), "Of course I don't alter reality" (but often they do--beyond the unavoidable altering attributable to individual perception), "Of course I have a point of view that influences my pictures," (but, "I do not manipulate my subject matter"), "Of course I select the person, place, moment, and that in and of itself can create a view of reality" (but, "look at how I captured that moment").

Answering the original research questions will summarize support for the general hypothesis.

•What do editors believe they are doing when they assign a photographer to a story or select a photograph to publish?

For the most part editors say they want the photographer to get the best truth in the best picture in the quickest amount of time. Conflict still arises, however, over whose truth is the best truth: the photographer's, the photo editor's, the reporter's, the word editor's, the page designer's, and so forth. An even greater conflict can arise when a photojournalist comes back with an incredible photograph--that may not be the best conveyor of the story according to someone else's truth.

•What do photojournalists believe they are doing when they "take" or "make" a photograph?

For the most part photojournalists seem to believe they are taking photographs of found truths, but they also acknowledge to a varying extent the subjective nature of their own techniques and points of view. Many draw distinctions among different kinds of assignments. A fire story, for example, might warrant absolutely no overt manipulation of subject matter, whereas an environmental portrait might allow placement of the subject by a window for better light. Most photojournalists believe it is their job to make a good picture out of something that may not be very visually interesting--even if it means the photographer has a heavy hand in creating the subject matter, or at least the approach to the subject matter.

•What do subjects believe they are doing when they are photographed for a newspaper?

Subjects, for the most part, seem to be amazingly attuned to the routines of newspaper photography. By this I mean that they know how to pose, they know how to behave as if they are not posing, they know how to draw the photographer's eye, they know how to get a photographer out to shoot, they know how make pictures more visually interesting. Yet subjects also appear to be willing participants in the "as if" game: "Let's all act as if this moment is real, so we can create that fine moment of reality for publication in the newspaper just the way we want it." Subjects are concerned about how they will look, about controlling their images (to varying degrees), about the power of the photographer to make them look good or bad, and about the anticipation of getting their pictures in the newspaper (whether as unmanipulated as possible or absolutely staged seems not to matter to some).

•What do viewers believe they are seeing when they glance at a photograph in a newspaper?

Viewers still believe their newspapers for the most part--at least they say they do. They seldom pause long enough to question what they see in news photographs, even if they have knowledge of how an image can be manipulated.

Other Findings

Part of the beauty of the ethnographic method is that hypotheses and research questions are only guidelines for the study. The appearance of unexpected paths can often take the ethnographer to more exciting destinations than ever anticipated. As noted at the beginning of this results section, I came to several unanticipated conclusions. The most important findings included:

•Far from a dying profession whose decline has been heralded for years in the face of digital imagery and multi-media technology, newspaper photojournalism appears to be alive and well in the communities studied.

•Contrary to naysayers about the impact of digital imaging on photojournalism, it appears that digital imaging's influence is largely positive. The positive effects include increased speed and efficiency, better internal communication and higher standards of ethics.

--Speed and efficiency

While some bemoan the loss of darkroom control, others delight in the efficiency of shooting color negative film, running it through the Noritsu and scanning in the selected frame. Editors brag about getting a digital image on the wire seconds after it was made rather than having to rush back through traffic to run film. It's as if the new technology has breathed new life into newspaper photojournalism: faster tools with which to beat the competition.

--Better internal communication

Most of the photojournalism operations observed had made important moves in terms of physical proximity to the newsroom. Many were now in a central part of the newsroom and therefore more accessible to word reporters and editors and page designers. Teamwork was encouraged, especially on big stories. In addition, some photographers and photo editors reported better community among their own staffs. No longer divided by darkroom revolving doors, staffers working at computer workstations were freer to talk with each other about stories and pictures, to compare notes about technique, or to discuss work and life issues.

--Higher ethical standards

Contrary to frequently expressed fears that digital imaging will lead to increased manipulation of news photographs, and therefore less credibility, the fear of what "could happen" seems to be making many good photojournalists and editors stricter than ever about visual ethics. Twenty years ago, for example, setting up a photograph not only was common--it was a technique taught in photojournalism schools. Now setups are verboten except under special circumstances "where the reader will know" the shot is setup because the setup is so obvious. The paradox of digital imaging may be that the new technology blatantly demonstrates overt and covert image manipulation to the point that we understand on every-deepening levels the need for careful, conscious interpretation of daily news to readers.

•Some effects of digital imaging are, of course, negative. The biggest negative effect may be the difficulty archiving digital files--both in a physical sense and in an ethical sense. As one photo editor noted, we used to be able to count on going back to original negatives and contact sheets or slides to compare the differences between prints and originals, to compare one frame within the context of an entire shoot, to pull up the shot deemed unimportant at the time of the edit. As we move increasingly toward digitized images, the tendency is toward archiving "THE" shot and dumping the rest. We may no longer have the technology, management systems or the space to preserve a whole shoot.

•Photographers are more likely to be considered visual reporters, whose points of view, story ideas and contributions to overall coverage and ultimate editing/production of a story with visuals is considered invaluable.

•Photojournalists' attempts to replace "refrigerator pictures"--the grip and grins, check signings, ribbon cuttings, fish recordings--with "real photojournalism" may be one factor contributing to readership decline. One answer to the problem may be to reserve special sections for such pictures, rather than to eliminate them.

Many other patterns are emerging from my analysis of this rich body of material. They include:

•the tendency of many newspapers to have "star" photojournalists

•the photojournalists' continued commitment to make images that make a difference in people's lives

•the increasingly strong role of photo editors in the management of the newspaper

•the pervasiveness of digital imaging over wet labs

•increased diversity among shooters and editors--though still far from representative percentages in terms of race or gender

Discussion

This study addresses one of the most critical concerns facing news media as they enter the twenty-first century: we can no longer believe our eyes. Technology has made possible the physical alteration and creation of any photographically real image we can envision. The line between fact and fiction, science and art, news and entertainment, information and advertising has become increasingly blurred. Yet somehow we must continue to disseminate the visual and verbal information necessary to inform the masses about matters beyond their local universes. This study was based on an assumption that successful and reasonably truthful communication of news through visual images is not only highly desirable but also possible--but we must frame the production and use of those images as mediated communication, rather than as the capturing and publication of objective reality.

Print journalism and, to some extent, all news media are suffering a decline in public trust (Kelly and Nace). As the media move toward even more varied and easily manipulated forms of representation and creation, the issue of truth and how we come to know anything about our world becomes increasingly critical. If the media are to continue the time-honored and necessary tradition of informing the public, media professionals and users must understand more about the process of communicating the most powerful of all information--visual information (Ivins). This study sought to take a hard look at how news images are being made and used during this volatile period of merging technologies and ideologies.

What I observed was a committed core of photojournalists and editors dedicated to producing the best images possible--and that usually meant the least manipulated, most accurate images they could make--with awareness of the potential to mislead and misinform viewers through the manipulation of

those images and therefore the construction of the news. Photojournalism practice does seem to be proceeding through the postmodern skepticism of objective reality as if we still can know, or objectify some things. The glory lies in the notion that maybe we can know some things: we know Nelson Rockefeller shot the finger in public, we know Robert Kennedy lay dying, we know bodies were stockpiled in Rwanda. At stake is the soul of photojournalism--the survival of a form of reality production--at once mediated and true. The paradox is that in this unreal, constructed, perceived world of ours, we sometimes see sparks of something we can call reasonably true because of the skill and integrity of those who created the sparks. Far from being the demise of photojournalism, new technologies are clarifying our standards and ethical codes. As we proceed on the cusp of the Virtual Age, we may also be living in the Age of the Photojournalist, an era when one of the few things we can trust as reasonably true may be good photojournalism.

Through careful study and analysis we can make informed, critical decisions about how to move forward wisely with credible visual imagery in local and global news communication. My primary recommendations based on my observations are that we recognize the critical nature of this time in the history of photojournalism; that we set and maintain increasingly higher standards for the practice of photojournalism; that we educate ourselves, our editors and word reporters, our designers, our marketers, and certainly, our viewers/readers about various forms and degrees of image manipulation; and that we never give up trying to understand, record, interpret and discuss in various ways our various worlds simply because we now understand there is no such thing as objective TRUTH. I recommend that we work diligently to redesign photojournalism routines so that they openly acknowledge the subjective nature of visual knowledge while striving to produce reasonably accurate visual images. New routines might include structuring caption information to cite the subjective role of photojournalism in reporting news; often using more than one exciting image to communicate a story; noting when a particularly compelling image is not necessarily representative of a story, person, place or event; and regularly including visual literacy lessons through examples published in the newspaper. We must continue to tighten photojournalism codes of ethics to prohibit overt manipulation of news photos and to encourage photojournalists to become conscious of and note even such relatively minor manipulations as moving a soft-drink can or asking someone to pose by a window. We also must rethink the nature of photographs that win top awards in terms of the "kinds of realities" they encourage photojournalists to seek.

I hope this study will contribute to a body of theory and future research on visual journalism, to the professional practice of working photojournalists, to media literacy training for viewers/readers and potential subjects of photojournalism, and to visual journalism education. If photojournalism--and indeed, journalism--is to survive, we must do what we say we do--and be sure we can do what say we can do. That will probably mean letting go of the myth of photojournalistic objectivity, inviting our subjectivity where appropriate, and acknowledging the limitations of our ways of knowing about the world--even as we strive to produce reasonably

accurate accounts of what is happening in our worlds. Perhaps studies such as this one can help us understand how photojournalists can make their images increasingly worthy of public trust, rather than increasingly unbelievable. And perhaps we can begin the twenty-first century knowing we can believe what we see in good images of photojournalism.

> *Truth . . . is something we make in the encounter with the world that is making us (McLuhan and Powers, 1989, p. xi).*

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THE HEALTH OF PHOTOJOURNALISM AND VISUAL COMMUNICATION EDUCATION IN THE NINETIES: CAUSE FOR CONCERN OR A BRIGHT FUTURE?

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THE HEALTH OF PHOTOJOURNALISM AND VISUAL COMMUNICATION EDUCATION IN THE NINETIES: CAUSE FOR CONCERN OR A BRIGHT FUTURE?

Budget cuts. Proposed mergers. Mergers. Threatened layoffs. Closures.

While this may describe what goes on in big business, it also describes the rocky couple of years journalism and mass communication education has experienced lately. Each semester seems to bring more news about programs under "review," which often means they are being looked at for possible merger with another unit or possible elimination.

As Judy VanSlyke Turk, current president of the Association for Education in Journalism and Mass Communication, says, "I wish 'they' would quit picking on us. 'They'--college and university governing boards and trustees, presidents, provosts and even some deans--are saying with increasing and alarming frequency that journalism and mass communication education isn't central enough to a university's mission.[1]

While mergers may not be so new, this most recent trend of upheaval seems to have started with the closing of the journalism unit at Oregon State University when the 1990-91 academic year was over. Within the next four years, many programs, including those at Arizona, Michigan, Washington, Ohio State, Southern California, San Diego State, and Western Ontario, were under review and making headlines.

The results of Gerald M. Kosicki and Lee B. Becker's annual enrollment survey in Journalism Educator indicate that nearly 19 percent of the 430 programs in the sample reported that

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[1]Judy VanSlyke Turk, "From the President," AEJMC News (March 1995): 2.

discussion of mergers on their campuses had occurred recently, while approximately 4 percent reported discussion of elimination of their units.[2] Nearly 8 percent of the administrators already were leading units that resulted from a merger within the last five years.[3]

Recent Sites of Controversy

As of March 1995, the battle over the proposed closing of the University of Arizona's Department of Journalism continues. Under the upper administration's plan, the unit would close by June 30, 1998, leaving journalism in the state to be taught only at Arizona State and Northern Arizona universities. However, the UA faculty have countered by proposing a new School of Journalism and Media Studies.[4]

A report in a 1995 issue of the Chronicle of Higher Education indicates that over the next few years the communication department at the University of Michigan will be reorganized, and that as of Fall 1995, the department's video and film courses will become part of another department.[5] "The department's journalism program--deemed too vocational for a liberal-arts curriculum--will be moved out of the college," according to the report.[6]

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[2]Gerald M. Kosicki and Lee B. Becker, "Undergrad Enrollments Decline; Programs Feel Budget Squeeze," Journalism Educator 49:3 (Autumn 1994): 13.

[3]Ibid.

[4]Joe Gold, "Swatting at Gadflies: Will Real-World Journalism be Banished from the University of Arizona?" Tuscon Weekly (March 2-8, 1995), p. 20.

[5]"Curriculum Notes," The Chronicle of Higher Education (February 10, 1995): A14.

[6]Ibid. Also see John Bebow, "U-M Will Remove Journalism Program From Its Curriculum," Detroit News (January 15, 1995).

Near the end of 1994, the president of the University of Washington targeted the School of Communications for complete elimination to help cover more than $18 million in proposed budget cuts.[7] Recently, a faculty-student committee voted to save the school; however, several more hurdles must be overcome before the program's future is known.[8]

Earlier in 1994, Ohio State University announced plans to merge the journalism program with the communication school, following three years of budget cuts to both units. One of the main reasons given for merging journalism into the school was related to redefining the mission of the university and questioning the journalism unit's centrality to a liberal arts education.

At the University of Southern California, the School of Journalism merged in July 1994 with the Department of Communication Arts and Sciences and the Annenberg School of Communication. "The expanded Annenberg School will become a part of a larger Annenberg Center for Communication, which will include the School of Cinema-Television and the School of Engineering," according to a 1994 article in The Quill.[9]

The journalism department at San Diego State University also merged in 1994 with speech communication and telecommunication & film, two previously independent units, resulting in the School of Communication. According to a recently retired journalism professor, "Mergers like this

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[7] Marsha King, "Reaction Strong to UW's Proposed $18 Million in Cuts," Seattle Times (December 1, 1994): A1, 18; and Marsha King, "Ire and Dismay Over Proposed UW Cuts," Seattle Times (December 2, 1994): B1-2. Also see "Vertical Pain at the U of W," Seattle Post-Intelligencer (December 6, 1994): A20; and Alex Edelstein, "Communication Key to UW and to Society," Seattle Post-Intelligencer (December 17, 1994): A15.

[8] See M.L. Stein, "Big Life for Journalism School; Faculty-Student Committee Votes to Save U. of Washington's School of Communications, But There are Still Two Hurdles to Clear," Editor & Publisher (March 25, 1995): 14.

[9] Dean Nelson, "Campus Mergers and Acquisitions," The Quill (September 1994): 37.

make you too big for the president of the university to pick you off when the next round of budget cuts comes along. These decision are as much a function of hard times as they are bad thinking."[10]

The problems facing journalism and mass communication programs are not limited to the United States. The Graduate School of Journalism at the University of Western Ontario barely survived elimination because of budget problems. In October 1993 the board of governors reversed by a one-vote margin a vote of the campus' senate to close the unit.

Other Changes Affecting Photojournalism Programs

In addition to the shakeup in some journalism and mass communication programs, there have been important changes within several photojournalism programs at institutions other than those already discussed. For example, with the retirement of Charlie Brill in 1994, Kent State University stopped offering its major in photojournalism, while still offering the photo courses. According to Michael Morse, a lack of commitment to the photojournalism major is what contributed to the elimination of the major.[11] It should be noted, however, that in 1993 Kent State's journalism program had more than 900 undergraduates, but only 23 were photojournalism majors.

Another large program, the University of Wisconsin-Madison, also phased out all of its photography courses, apparently because of a lack of student interest and high costs of operating a chemical darkroom for so few students. The University of South Carolina also closed its photography sequence during the 1990s.

All the news about university-level photojournalism and visual communication education is not bad, however. For example, the School of Visual Communications at Ohio University in Athens

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[10]Nelson, op. cit., p. 37.

[11]Mike Morse, "The Worth of a Photo Program," News Photographer (August 1994): 11; and Jim Gordon, "Photo Finish At Kent State," News Photographer (June 1994): 5.

received a $250,000 grant in 1994 from the Scripps Howard Foundation. That same year the University of Georgia hired Steve Dozier to teach courses and coordinate the photojournalism program which Dr. Beverly Bethune fought very hard to maintain once she knew she was retiring.[12] Later this year, the Photojournalism Sequence at the Missouri School of Journalism takes over the ground floor of a new three-story building.

The Study

Are these specific changes in photojournalism programs and more generally in journalism and mass communication programs around the country isolated incidents or evidence of more bad news to come?

It addition to wondering about the overall health of photojournalism programs around the country, it seemed appropriate to follow up on the 1989 survey Professor Robert Heller of the University of Tennessee conducted which appeared in Journalism Educator in Autumn 1991. Heller attempted to assess the current status of photojournalism education by surveying administrators at 179 member institutions of the Association of Schools of Journalism and Mass Communication (ASJMC). In his conclusions, Heller said, "Photojournalism education enters the Nineties full of contradictions, thriving in some school and neglected in others."[13] He was very concerned that since photojournalism continues to require more computer/digital equipment, there would be an increasing gap between the "haves" and "have nots."

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[12]Jim Gordon, "Does the Bell Toll for Us?" News Photographer (August 1994): 7; also see another Gordon piece, "Regional Editors Cited for Service," on the same page of the same issue.

[13]Robert Heller, "Photojournalism Education: Contradictions for the Nineties," Journalism Educator 46:1 (Spring 1991): 31.

In addition to the descriptive statistics about the current "health" of photojournalism programs, we also were interested in seeing how other areas of visual communication, such as layout/design and graphics, were doing. It seemed possible that units could be expanding into areas of information graphics and desktop publishing thanks to the ever increasing advances in computers and software.

We wondered if there was any significant difference based on university size or journalism/communication department size on predicting the closure or expansion of classes or the offering of majors or minors in photojournalism and visual communication.

Using Heller's questionnaire as a beginning point, we arrived at a six-page survey, which was mailed to the dean, director or chair listed for all 405 journalism programs (colleges, schools, departments, and programs) in the United States and Canada, according to the 1993-94 Association for Education in Journalism and Mass Communication Directory. A reminder postcard was mailed several weeks later to any administrator who had not returned the survey.

Results

In all, 204 surveys were returned for a 50.4 percent response rate. The units described by the completed surveys covered a wide range of sizes and represented all geographic regions. Also, 62 responses were for units currently accredited by the Accrediting Council on Education in Journalism and Mass Communication (ACEJMC), or a response rate of approximately 66 percent.

As is often the case, the survey was completed by a variety of individuals--oftentimes by the dean, director or chair, but in other instances the survey was passed down by the chief administrator to a faculty or staff member.

One of our primary areas of interest was whether there had been expansion or closure of courses in photography and other areas of visual communication, especially in light of the growing

dependence on expensive computer hardware and software. Respondent were asked to state whether there had been any changes to either photography or visual communication offerings in the last five years and if there are any plans to change these areas in the next five years. Then they were asked to state the reason(s) for these changes, checking as many answers as applied.

Of the 186 responses to whether they had changed their photography program in the last five years, 126 programs (67.7 percent) had made one or more changes (see Figure 1). Of those schools, 49 programs (26.3 percent) added new classes, 24 programs (12.9 percent) added new sections of existing classes, 16 programs (8.6 percent) added new photo faculty, and seven programs (3.8 percent) added a new sequence. Regarding expansion (see Figure 2), 64.2 percent of the respondents said the most common reason for this was more student interest, and 31.3 percent thought that new technology made these courses more workable. Other reasons chosen were changing priorities (26.9 percent), more qualified faculty (22.4 percent), more school support (13.4 percent), and more external funding (7.5 percent).

Not all the news was good, however. Of those 126 programs, 37 programs (19.9 percent) closed classes, 14 programs (7.5 percent) decreased the number of photo faculty, and nine programs (4.8 percent) closed sequences. For those programs that decreased photography offerings (see Figure 3), 39 percent cited lack of school financial support, 35.6 percent cited lack of student interest and/or changing priorities, 18.6 percent cited lack of qualified faculty, and 5.1 percent cited lack of external/private funding.

Sixty of the 186 respondents (32.3 percent) said no changes were made to their photojournalism curriculum.

In looking ahead five years (see Figure 1), 65 programs (34.6 percent) do not expect to make any changes in their photography offerings. Of those 123 respondents who expect to make changes,

48 programs (25.5 percent) anticipate adding new classes and 24 programs (13 percent) expect to add new sections of existing classes. For those 30 respondents who expect to close photo programs (see Figure 3), 57 percent of the administrators said lack of school financial support and 33 percent said lack of student interest were the most significant reasons for the changes.

On the other hand, greater student interest was a prime reason selected for those 77 programs that plan to expand photography offerings (see Figure 2). New technology (53 percent) and changing priorities (35 percent) were cited most often as reasons for growth.

Looking at other areas of visual communication in the last five years (see Figure 5), 91 of the 178 respondents (51.1 percent) reported they added new classes, while 42 administrators (24 percent) said they experienced no changes. As for expansion, more student interest (63.1 percent), new technology (50.5 percent), changing priorities (44.7 percent), and more qualified faculty (22.3 percent) were most often selected as reasons.

The trend for the next five years in visual communication (other than photography) seems to be in the direction of expansion (see Figure 4). Of the 166 respondents, 38.6 percent expect their programs to add new classes and 20.5 percent expect to add more sections of existing classes. As far as expansion, 58.9 percent attribute more student interest, 56.7 percent attribute new technology, and 46.7 percent say changing priorities explain the expected growth in visual communication offerings.

For the nine schools (5.1 percent) that did reduce offerings in visual communication (see Figure 6), 50 percent said lack of school financial support, 36.4 percent cited changing priorities and 27.2 percent said lack of student interest as the most frequent reasons for this. Most often cited reasons for decreasing visual communication offerings were changing priorities (52.9 percent) and

lack of school financial support (41.2 percent). Also, 42 of the 178 respondents (23.6 percent) said there were no changes.

From these descriptive data, there does not seem to be the feared trend toward closure in either photography or other areas of visual communication. In looking at the zero-order correlations to see what the relationship was between changes in visual communication and/or photojournalism courses, we found that only three of the correlations differed significantly from zero.

First, what was done in the past in photography was positively related ($r = .4007$; $p = .05$; $df = 64$) related to what was predicted to be done with photojournalism in the future. Thus, if a photo program closed in the past, the likely trend would be toward future closings.

Second, the same trend held for visual communication offerings past and future ($r = .4449$; $p = 05$; $df = 64$). Last, there was a significant positive correlation between future predicted changes in photography and predicted changes in the future for visual communication ($r = .4619$; $p = .05$; $df = 64$). If these expected changes hold true, photojournalism and other areas of visual communication should change in the same direction (expansion or closure).

Three correlations that were not significant were between the direction that photojournalism went on in the past five years and what is expected to happen to visual communication in the next five years ($r = .133$; $p = .05$; $df = 64$); what went on in the past five years to visual communication and what is expected to happen to photojournalism in the next five years ($r = .2173$; $p = .05$; $df = 64$) and what went on in the past five years to both photojournalism and visual communication ($r = .2233$; $p = .05$; $df = 64$).

It also appears there was no relation between the closing of an area (photojournalism) and the expansion of the other, nor was there a correlation of both photojournalism and visual

communication expanding or both closing in the past five years. In other words, there was no predictive value for what happened in the past as it related to what would happen in the future.

Hierarchical multiple regression analysis was then conducted using as the dependent variable, a three point ordinal scale of change. According to Cohen and Cohen, an ordinal dependent variable is appropriate for multiple regression analysis.[14] Closure of any sort (classes or sequences) was scored a -1. Expansion of any sort was scored a +1, and no change was scored a zero. In the first analysis, university size and journalism department size were used as the independent variables.

In a second analysis, the independent variable was accreditation status. We were interested in seeing if either of this factor predicted closure or expansion of programs. University size was coded on a three point scale (1 = 0 to 10,000 students; 2 = 10,001 to 20,000; and 3 = 20,001+). The average university size of those that responded was 1.75. The entire range of programs was represented in our collected sample. As for program size, this was coded on a five point scale (1 = 0 to 100 students; 2 = 101 to 250; 3 = 251 to 500; 4 = 501 to 1,000; and 5 = 1001 +), with the average department size being a 2.73. Like university size, the entire range of program sizes was represented. The first regression analysis used the changes made to photography programs in the last five years as the dependent variable. There was no significance for the overall F-test ($F = .40$; $df = 3, 124$; p-value $> .50$). Using changes expected to be made in the next five years as the dependent variable, again the overall F-test was not significant ($F = .71$; $df = 3, 108$; p-value $> .50$). Moving on to other areas of visual communication, with past changes as the dependent variable, the overall F-test was not significant ($F = .62$; $df = 3, 177$; p-value $> .50$). Finally,

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[14]Jacob Cohen and Patricia Cohen, Applied Multiple Regression/Correlation Analysis for the Behavioral Sciences (Hillsdale, NJ: Lawrence Erlbaum and Associates, 1983): 9.

with expected future changes to visual communication as the dependent variable, again the overall F-test is not significant ($F = .49$; $df = 3, 107$; p-value $> .50$).

Since all these regressions resulted in non-significant F-tests, there is no need to further examine either the interactions or the main effects. This overall F test also shows that the R^2 for any of these analyses is not significantly different than zero. It seems that neither university size nor journalism department size was a significant factor in explaining changes in either photography or visual communication programs.

We also examined how accreditation correlated with all the change variables. It was thought that possibly accredited programs would have more dedication to improving there programs. Whether a unit was accredited or not did not correlate (the r^2 was not significantly different from zero; = .05) at all with how the school had changed or planned to change photography or visual communication offerings (none of these r^2 even accounted for 1 percent of the variance).

Moving on to more general descriptive statistics, at least one photography course is offered at 91.2 percent of the schools polled in 1994 (see Figure 7), while in the 1989 Heller survey, 83 percent of the schools offered at least one photography course. Further, of the responding schools, 17.7 percent had a major in photography and 9.9 percent had a minor. This compares to 25 percent for majors and 3 percent for minors in the 1989 Heller survey. Of schools not offering a photography course in the journalism program, 35.5 percent required students to take one in another department, such as art.

In terms of other areas of visual communication (see Figure 8), at least one course was offered at 94.8 percent of the respondents' units, with a major available at 17.8 percent and a minor at 6.8 percent of the programs.

The programs responding offer an average of 4.61 courses combined for photography and visual communication (median = 4). The low was zero and the high was 34 different classes. (These are courses listed in that university's bulletin, regardless of the last time the course was actually taught.) Breaking this down further, most schools offer slightly fewer than two courses (mean = 1.67) every term (semester or quarter) and a little more than two other courses once per year (mean = 2.24).

Apart from photography majors or minors (see Figure 9), a photography course was required for 43.5 percent of the schools for news/editorial majors (Heller: 33 percent), 14 percent for advertising students (Heller: 13 percent), 15 percent for broadcast students (Heller: 11 percent) and 24.4 percent for public relations students (Heller: 19 percent). At the same time, another type of visual communication course was required for news/editorial majors at 49.5 percent of the programs responding, for 38.5 percent of advertising majors, for 14.6 percent of broadcast majors, and for 46.4 percent of public relations majors.

Graduate courses in photography were offered in 34 percent (Heller: 21 percent) of the respondents' units. The average number of graduate courses offered was 2.3. The most offered by any of the responding schools was eight courses.

Most departments have one full-time faculty member in photography (mean = .89; median = 1). The typical full-time photography faculty member (see Figure 10) has a master's degree (62.4 percent). Of the faculty teaching photojournalism, 44 of 157 have a doctorate (28 percent). Heller found similar results with 61 percent of full-time faculty having a masters degree and 25 percent having a doctorate. In addition to the full-time faculty, there was an average of one other faculty member in photography working part-time (mean = .63). These part-time faculty members were evenly split between having a bachelor (43.4 percent) or master degrees (44.6 percent).

There was an average of 1.5 full-time faculty members for other visual communication courses; 55.5 percent of these teachers had master's degrees and 38 percent had doctorates (see Figure 11). There was an average of one other part-time faculty member in visual communication (mean = .59). Like the photography part-timers, most of these visual communication teachers had either bachelors (38 percent) or master's degrees (47.9 percent).

Conclusions

From the results of the descriptive analysis and the regression analysis, our study does not indicate there is a strong trend toward reducing courses or programs in photography or visual communication. The examples of the upheaval in journalism and mass communication education cited at the beginning of this paper appear to be well publicized, yet isolated incidents, of changes going on around the country.

Nevertheless, there is another bit of troubling research which should concern those interested in the future of visual communication education. According to Professor Douglas Birkhead of the University of Utah, "Photojournalism emerged as the most frequently mentioned vulnerable course, cited by nearly one in five administrators (18.3 percent) as the most likely subject for elimination."[15] Birkhead came to that conclusion based on 148 responses from administrators to his questionnaire on curriculum decision making which he sent in 1994 on behalf of the Education Committee of the American Journalism Historians Association; respondents were asked to list three courses in their undergraduate program vulnerable to elimination.

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[15]Douglas Birkhead, "Survey: J-History Courses Likely to Survive Journalism Budget Cuts," AJHA Intelligencer (February 1995): 3.

Given the results of Birkhead's recent study, we wondered if the difference in his results and ours could have been due to the fact that possibly more chief administrators completed his questionnaire than ours, which, in some cases, had been passed down to other faculty or staff members. To examine this possibility, we created a dichotomous variable for who filled out our survey. The variable was coded a 1 if the survey was completed by the chief administrator and 0 if it was filled out by anyone else. Then this variable was correlated with each of the four "change" variables to see if there was any relationship.

None of these correlations were significant. This means there was no relationship between who filled out the form and the direction the photojournalism or visual communications programs had gone in the past or were expected to go in the future (correlation with photojournalism past: $r = .0908$; $t = 1.043$; $df = 131$) and (with photojournalism future: $r = -.0224$; $t = -.243$; $df = 118$) and (with visual communication past: $r = -.1332$; $t = -1.556$; $df = 134$) and (with visual communication future: $r = -.0217$; $t = -.231$; $df = 113$).

Birkhead's gloomy predictions for the future of photojournalism and visual communication education are not consistent with the results of our study. One possible explanation is that respondents may have not been able to determine the "hidden agenda" of Birkhead's study (i.e., the continued health of history courses when budget cuts force new priorities), whereas the theme of our questionnaire was very apparent. Knowing that we were concerned with the health of photography and visual communication offerings may have softened the answers the respondents gave. Unfortunately, a clear explanation of why these two recent surveys of administrators are not in agreement is unknowable at this point. No doubt further research needs to be done.

Regardless of the lack of agreement on exactly what our future holds, it is always in the best interest of photography and visual communication faculty to make sure their courses are an essential

part of the overall curriculum. Given the growing importance of communicating visually, there is no better time to encourage others (students and faculty alike) to understand what we do. Reaching out to our colleagues and becoming part of the fabric of our programs no doubt will serve us well if and when the budget ax or merger mania sweeps our campus.

In 1989, Robert Heller of the University of Tennessee examined in a Journalism Educator article the state of photojournalism programs and found that many smaller ones were in danger of closing. Now, in 1994 it seems appropriate to check the overall health of photojournalism and visual communication education around the country. Thank you in advance for your time in this important matter.

1. In your journalism/mass communication program, which of the following is offered in photography?

____ Major
____ Minor
____ Individual courses only
____ Other (please be specific) _____
_____
_____

2. How has photography education at your school changed during the last five years? We have...(check all that apply)

____ Added new classes
____ Added a sequence
____ Offered more sections of existing classes
____ Closed classes
____ Closed a sequence
____ Hired more photo faculty
____ Decreased number of photo faculty

____ Other (please specify)_____
_____
_____

2a. If you closed either classes or sequences, what were the reasons? (check all that apply)

____ Lack of student interest
____ Lack of school financial support
____ Lack of external/private funding
____ Lack of qualified faculty
____ Changing priorities
____ Other (please specify) _____
_____
_____

2b. If you added either classes or sequences, what were the reasons? (check all that apply)

____ More student interest
____ More school support
____ More external/private funding
____ More qualified faculty
____ Changing priorities
____ New technology makes it workable

____ Other (please specify)_____
_____
_____

3. How do you anticipate photography education at your school will change during the next five years? (check all that apply)

____ Add new classes
____ Add a sequence
____ Offer more sections of existing classes
____ Other (please specify)
____ Close classes
____ Close a sequence
____ Hire more photo faculty
____ Decrease the photo faculty

_____
_____

3a. If you are planning to close either classes or sequences, what are the reasons? (check all that apply)

____ Lack of student interest
____ Lack of school financial support
____ Lack of external/private funding
____ Lack of qualified faculty
____ Changing priorities
____ Other (please specify)_____
_____
_____

3b. If you anticipate adding either classes or sequences, what are the reasons? (check all that apply)

____ More student interest
____ More school support
____ More external/private funding
____ More qualified faculty
____ Changing priorities
____ New technology makes it more workable
____ Other (please specify) _____
_____
_____

4. In your journalism/mass communication program, which of the following is offered in other areas of visual communication (e.g., layout/design, graphics)?

____ Major -- which area(s) _____
____ Minor -- which area(s) _____
____ Individual courses only
____ Other (please be specific) _____
_____
_____

5. How have other areas of visual communication education at your school changed during the last five years? We have...(check all that apply)

____ Added new classes
____ Added a sequence
____ Offered more sections of existing classes
____ Other (please specify)_____
____ Closed classes
____ Closed a sequence
____ Hired more visual communication faculty
____ Decreased visual communication faculty
_____
_____

5a. If you closed either classes or sequences, what were the reasons? (check all that apply)

____ Lack of student interest
____ Lack of school financial support
____ Lack of external/private funding
____ Lack of qualified faculty
____ Changing priorities
____ Other (please specify) _____

_____

_____

5b. If you added either classes or sequences, what were the reasons? (check all that apply)

____ More student interest
____ More school support
____ More external/private funding
____ More qualified faculty
____ Changing priorities
____ New technology made it workable
____ Other (please specify)_____

_____

_____

6. How do you anticipate other areas of visual communication education at your school will change during the next five years? (check all that apply)

____ Add new classes
____ Add a sequence
____ Offer more sections of existing classes
____ Close classes
____ Close a sequence
____ Hire more visual communication faculty
____ Decrease the visual communication faculty
____ Other (please specify) _____

_____

_____

_____

6a. If you are planning to close either classes or sequences, what are the reasons? (check all that apply)

____ Lack of student interest
____ Lack of school financial support
____ Lack of external/private funding
____ Lack of qualified faculty
____ Changing priorities
____ Other (please specify)_____

_____

_____

6b. If you anticipate adding either classes or sequences, what are the reasons? (check all that apply)

____ More student interest
____ More school support
____ More external/private funding
____ More qualified faculty
____ Changing priorities
____ New technology makes it workable
____ Other (please specify) _____

_____

_____

7. If photography classes are not offered in your department, do you require students to take such classes from another department on campus?
____ Yes ____ No
If so, which one? _____

8. A photo course is required for...(please check all that apply)
____ news/editorial students (excluding photojournalism students).
____ advertising students.
____ broadcasting students.
____ public relations students.
____ other sequences. (please specify) _____

9. Another visual communication (e.g., graphics, layout/design) course is required for...(check all that apply)
____ news/editorial students.
____ advertising students.
____ broadcasting students.
____ public relations students.
____ other sequences. (please specify) _____

10. Are graduate level photography or visual communication courses available in your program?
____ Yes ____ No
If yes, please list by title _____
_____
_____
_____

11. What do you see as the importance of an education in photography/visual communication?
_____
_____
_____
_____
_____

12. How many full-time faculty do you have in the entire journalism/mass communication department? _____

13. How many part-time faculty do you have in the entire journalism/mass communication department? _____

14. How many **full-time** instructors teach photography classes? ____

14a. For how many **full-time** instructors is photography a primary responsibility and for how many is it a secondary responsibility?
____ Primary ____ Secondary

14b. In brief, what are their qualifications? (Please list degrees, rank and years of professional photography experience.) _____

_____

_____

_____

_____

_____

15. How many **part-time** instructors teach photography? (include only those who are in charge of a class) ____

15a. For how many **part-time** instructors is photography a primary responsibility and for how many is it a secondary responsibility?
____ Primary ____ Secondary

15b. In brief, what are their qualifications? (Please list degrees, rank and years of professional photography experience.) _____

_____

_____

_____

_____

_____

16. How many **full-time** instructors teach other visual communication courses? ____

16a. For how many **full-time** instructors are these courses a primary responsibility and for how many is it a secondary responsibility?
____ Primary ____ Secondary

16b. In brief, what are their qualifications? (Please list degrees, rank and years of professional experience.) _____

_____

_____

_____

_____

_____

17. How many **part-time** instructors teach visual communication courses? ____

17a. For how many **part-time** instructors are these courses a primary responsibility and for how many is it a secondary responsibility?
____ Primary ____ Secondary

17b. In brief, what are their qualifications? (Please list degrees, rank and years of professional experience.) _____

_____

_____

_____

_____

18. Please list all the photography and other visual communication courses offered in your department.

Title	No. of Students	How often is this course taught?		
		Once per term	Once per year	Other (please specify)
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				

Please write in you name, title and school below:

_____

_____

_____

If you would like a copy of the results please include your entire mailing address.

_____

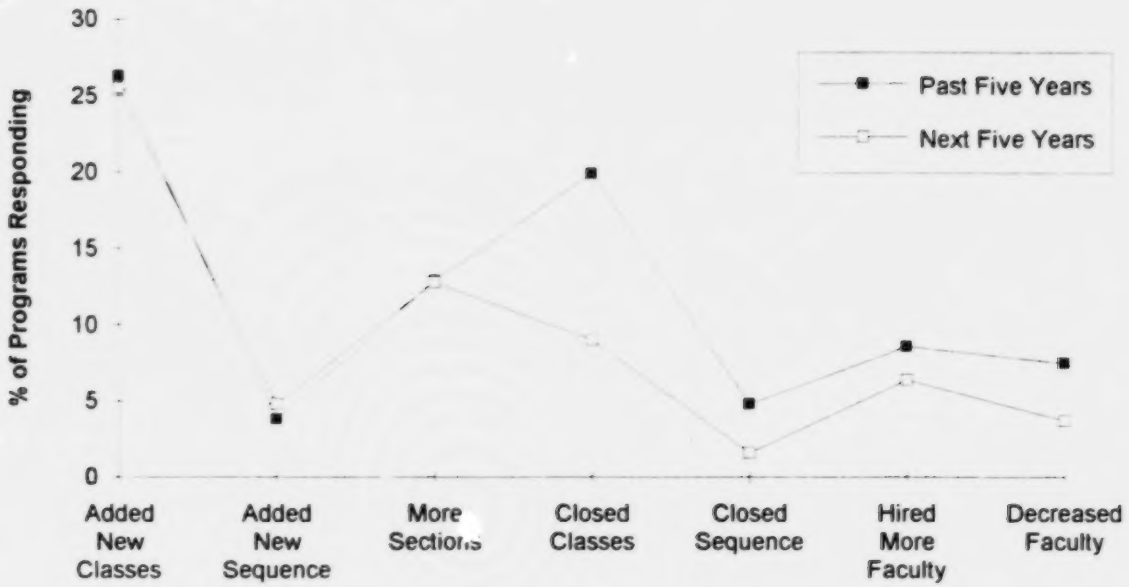
_____

_____

_____

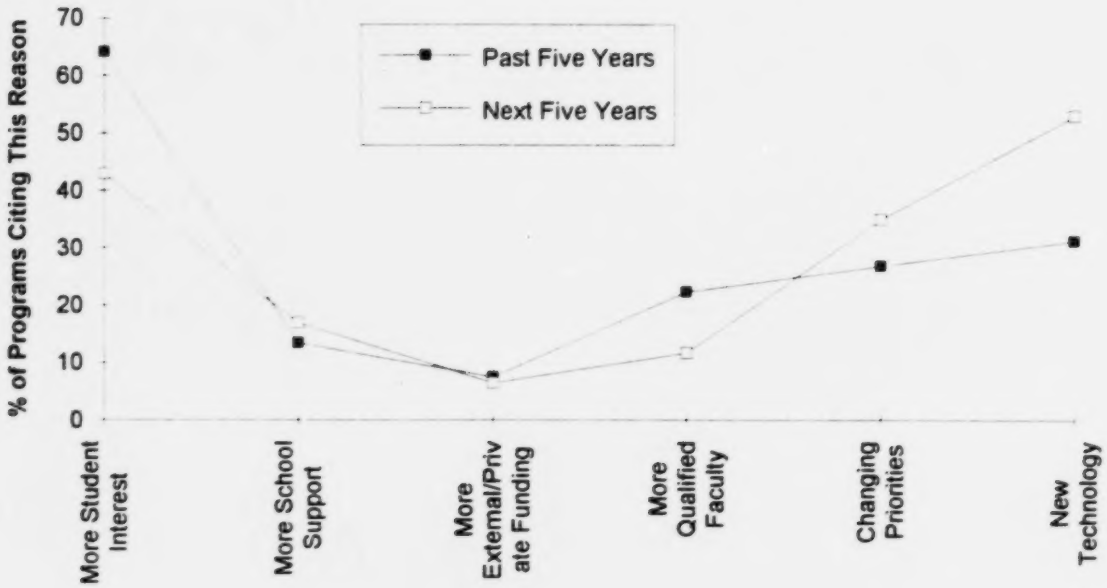
_____

Thank you for your time and assistance.



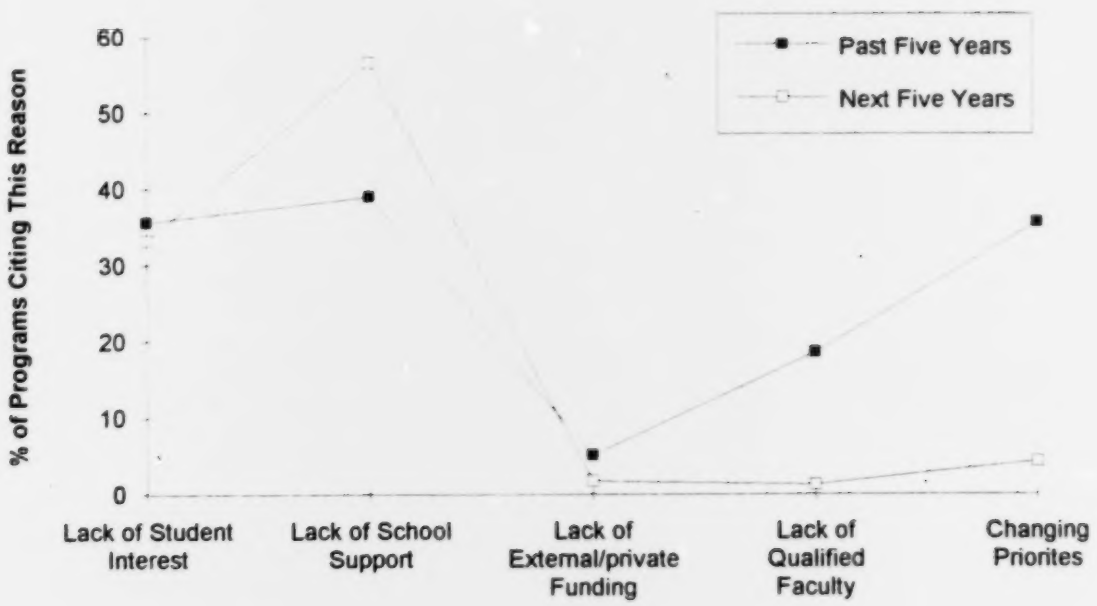
Changes in Photography Offerings

Figure 2



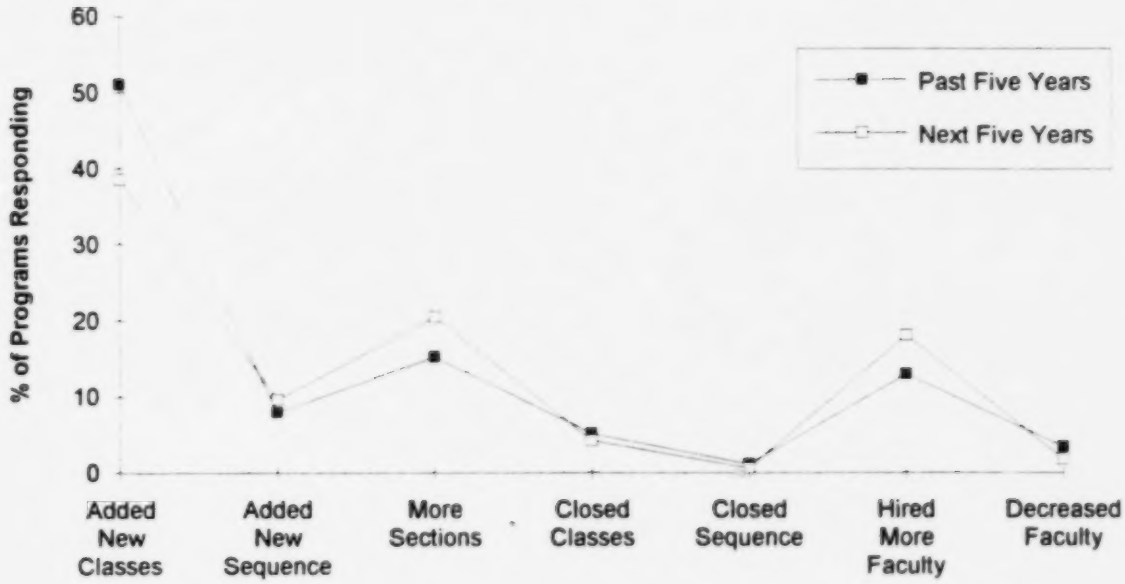
Reasons for Photo Expansion

Figure 3

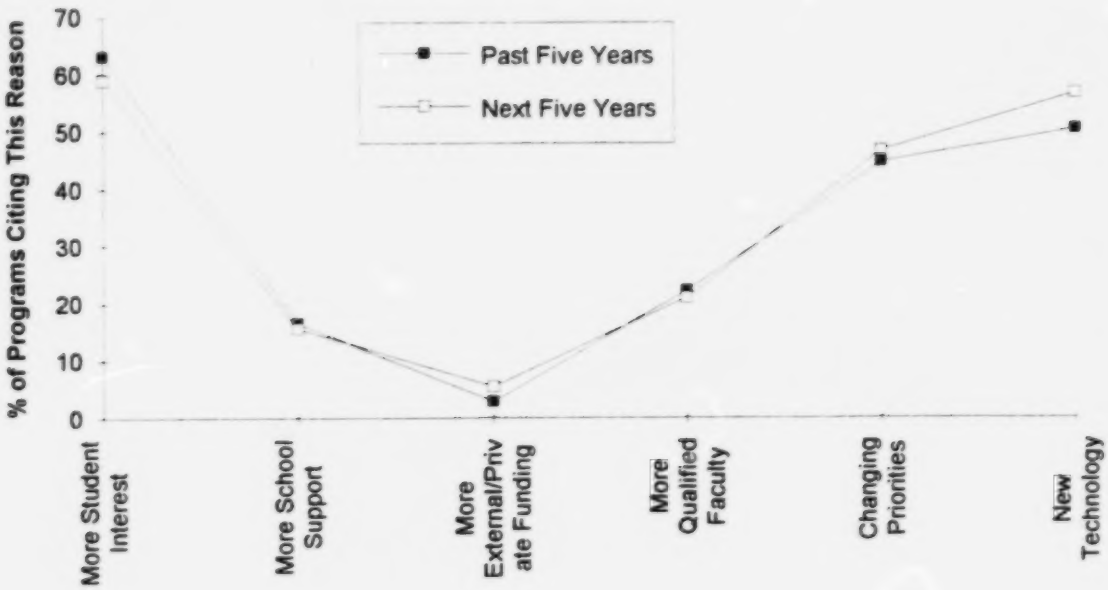


Reasons for Photo Closings

Figure 4

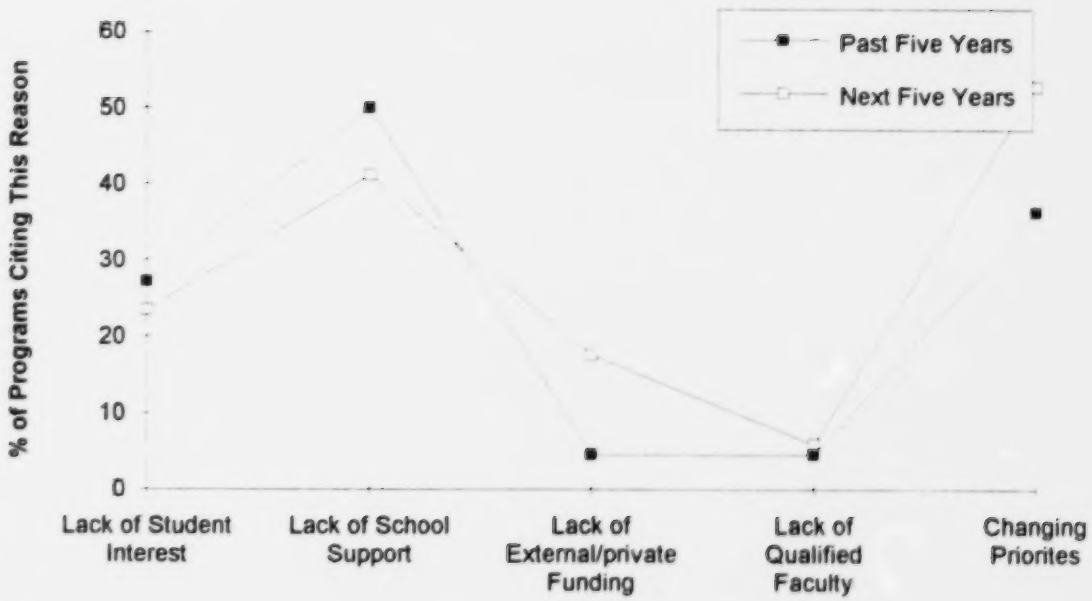


Changes in Visual Communication Offerings



Reasons for Visual Communication Expansion

Figure 6

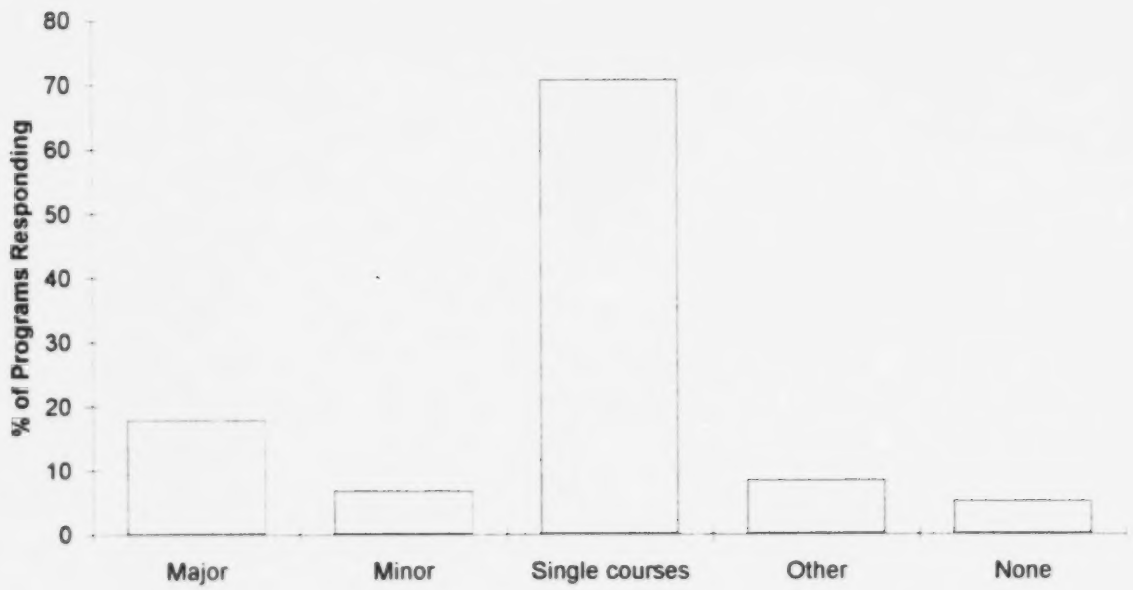


Reasons for Visual Communication Closings

Figure 7

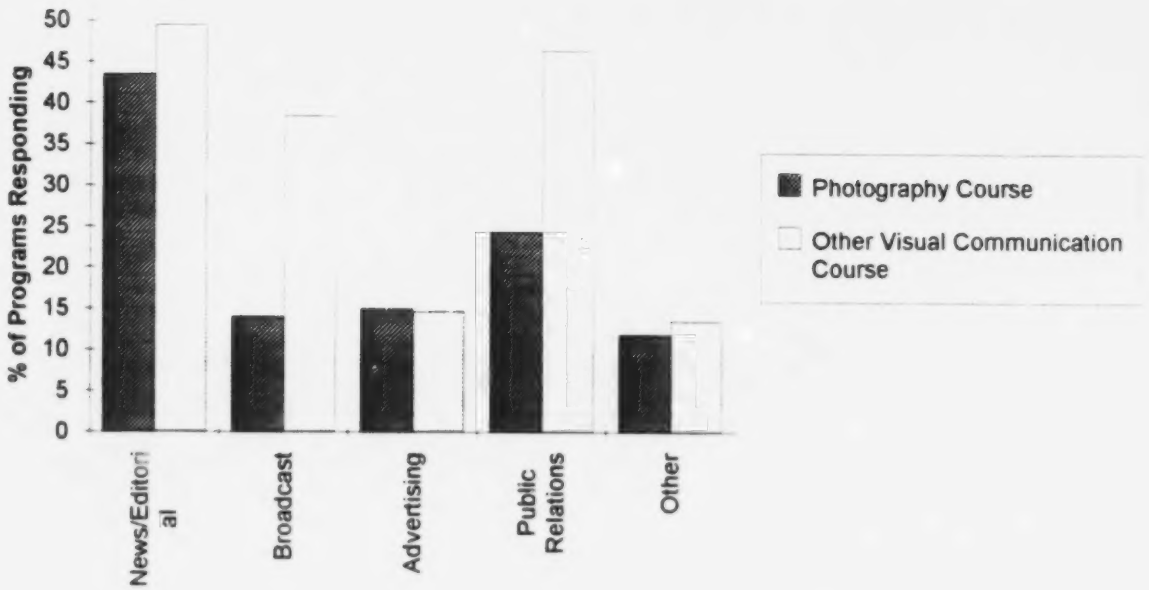
Offerings in Photography

Figure 8



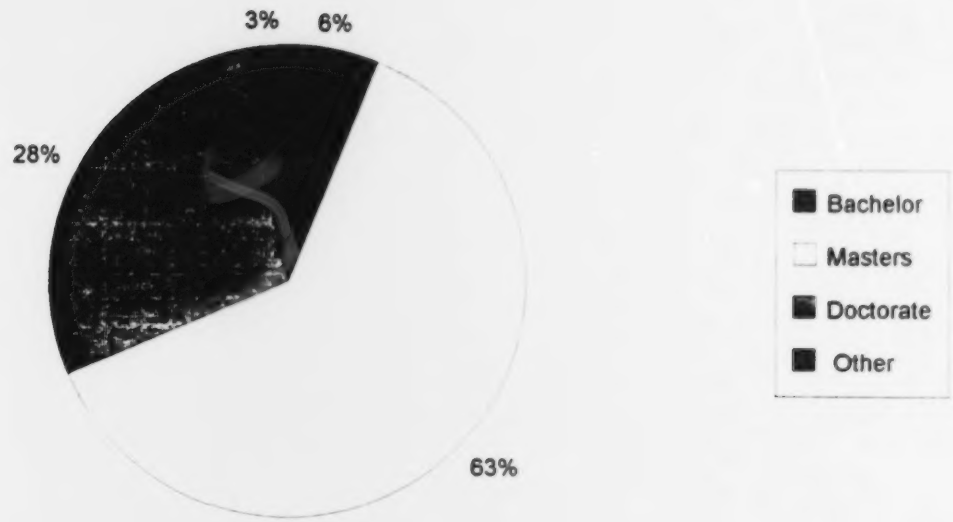
Offerings in Visual Communication

Figure 9



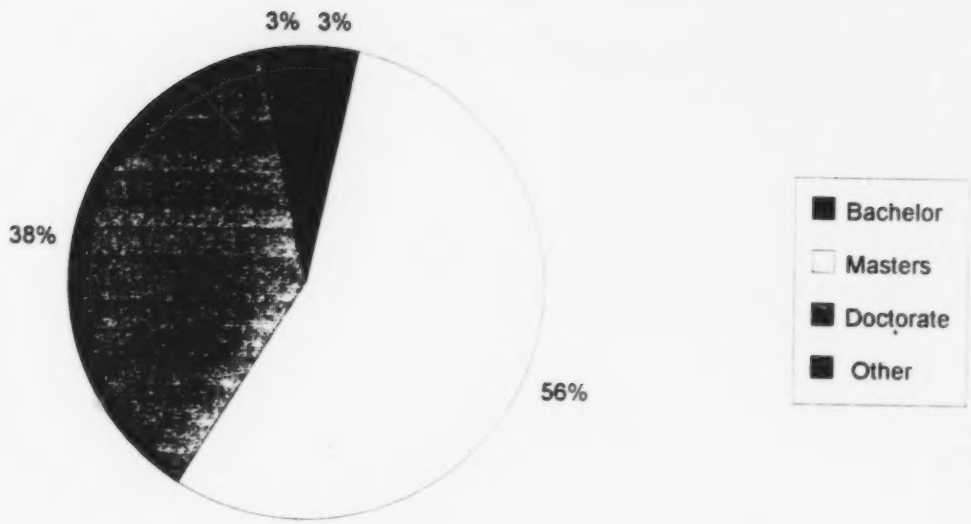
Others Required to Take These Courses

Figure 10



Education of Full-time Photography Faculty

Figure 11



Education of Full-time Visual Communication Offerings

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Design Variations Within and Among Newspaper Chains

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Design Variations Within and Among Newspaper Chains

Two notable trends in the newspaper industry over the last 20 years have been the continued growth of chain ownership and revolutionary changes in design and layout.

Ownership and design may seem unrelated. However, it is not uncommon for new owners of a newspaper to immediately change typeface and overall design[1] in an effort to create a new impression for image for the newly acquired publication. Appearance singularity is important; one study of three cities with jointly owned morning and evening newspapers found both newspapers had clear differences in their makeup and typography as if to intentionally create a visual distinction between the two newspapers.[2]

Today, with 123 newspaper chains[3] in the United States, three-fourths of all dailies are part of one. The number of chain-owned newspapers and the size of the chains continue to increase, while the actual number of chains has decreased as larger chains swallow up smaller ones. Becoming part of a chain can provide some publishers with financial resources for equipment and staff to produce today's graphically modern publications.

While a significant body of research has developed in recent years regarding the effects of chain ownership on newspapers' staffing, profit orientation and news product, any relationship between ownership and design has been ignored. Studies have focused on economic vitality, size of news hole, political endorsement patterns and marketing strategies.

Observers might anticipate that while newspapers in different cities would vary widely in their content, with different local news, columnists, advertisements and comics, that variation in general appearance would be less likely, due to common technology, similar designer training and space limitations. One might also surmise that corporate home offices, while providing funds for member newspapers to create modern designs, have little interest in--nor reason to--dictating a newspaper's design. In other words, design is an apolitical practice,[4] not perceived by corporate home offices as tied to editorial success or a successful profit margin. Also, unlike expanded (i.e. better) local news coverage, better design does not necessarily

require more staff.

The purpose of this study is to examine the design and appearance of newspapers from the nation's leading chains to discover if there is appearance conformity within chains and if so, how conformity of design and layout varies among the among the chains.

Chains and News

The growth of newspaper chains throughout the 20th century has brought various companies huge profit margins and attracted a great deal of criticism at the same time. Bagdikian[5] has criticized the potential of these conglomerates to dictate newspaper policy from afar--everything from budgeting to size of the news hole, while conceding that a few chains show evidence of publisher autonomy and editorial quality. Notwithstanding such criticisms, some studies have found that chain ownership has not had a deleterious impact upon newspapers nor those who work at them.

Most of the research has compared chain newspapers to non-chain newspapers, rather than comparing the characteristics of individual chains and their member newspapers. Coulson[6] found that journalists at both chain and independent newspapers held positive views about their paper's local coverage. While the Thomson group has often been criticized for little attention to editorial quality, a case study found little change in one Canadian paper's "sensationalism" index after a Thomson takeover, compared to the period before the purchase.[7]

A 1979 examination of Gannett papers before and after the corporate takeover found that the newspapers looked more attractive than they had as independents, but that changes were mainly cosmetic.[8] Another case study of Gannett newspapers found them quite similar to independents and to newspapers in other chains in terms of their use of graphics and white space,[9] with more use of graphs after Gannett's takeover. Gannett papers were more likely to resemble *USA Today* than were other newspapers.[10]

Soloski's[11] case study examination of one chain newspaper found that members of a chain tended to share the chain's own wire service, leading papers in the same chain to

expression of the same viewpoints. One study suggesting a drive toward conformity found that newspapers in the Knight-Ridder chain gave more coverage to the Gary Hart-Donna Rice story than did newspapers in other chains or independents. The *Miami Herald*, a Knight-Ridder member, broke the story.[12]

Several studies have focused on political endorsements by chain and independent newspapers. One found that chains generally play a minimal role in affecting the political endorsements of their member newspapers.[13] Some anecdotal evidence indicates otherwise. In 1972, the Cox chain's home office required all nine of its newspapers to endorse the Republican ticket for president; the Hearst chain issued a similar directive (for Democrats) in 1964 to its 13 newspapers.[14]

One chain went a step further in 1977, sending two anti-Carter articles to all its newspapers and ordering both run on page one. One editor refused and was fired.[15] Wackman et al.[16] found no patterns in endorsements by the chains of newspapers they studied. A 1984 study found that chain-owned newspapers were more likely to endorse the candidate leading in the polls and within each chain, papers had a strong tendency to endorse the same candidate. Little evidence was found to support editors' contention that they had a strong voice in deciding whom to endorse.[17] A 1987 study found neither group nor independently owned papers had much impact on statewide elections studied. Group papers were rated slightly more liberal in their endorsements.[18]

A comparison of chain and independent newspapers found few differences in front page content. Both used the same number of front page photos, and averaged 23% of front page space for photographs.[19]

Local autonomy at the chains varies. Matthews[20] found that publishers in privately held chains were more likely to take certain news-related actions without home office approval than were those in publicly held chains. For example, at privately owned chains, 79% of local publishers were permitted to autonomously increase the size of their news staff, compared to 59% of those at publicly held chain papers.

When owners are businessmen rather than journalists, the pressure for high profits at a newspaper will increase,[21] perhaps at the expense of improved content. For the publisher of a publicly owned chain newspaper, it becomes the ultimate juggling act, trying to satisfy the employer at the home office, provide dividends for stockholders, serve the readers and keep employees professionally content.[22]

Design and Conformity

One could eyeball daily newspapers across the nation and conclude, as former newspaper editor David Burgin did, that "they look alike; they feel alike. It's me-too journalism all over the country."[23] If one accepts that assessment, it would be expected that newspapers nationwide share the same overall design as well as the same graphic elements.

Data since the mid-1980s have generally supported Burgin's view. Newspapers have begun more and more to resemble one another in appearance. This is due to a combination of similarly trained designers, availability of new technologies and the prol feration of graphics wires; as examples, 98.9% of the newspapers surveyed in 1993 receive Associated Press Graphics and 100% have a Macintosh system; 96% use the Leafdesk picture editing software and 9 in 10 use color scanners. Evidence of similarity is also found in newspaper use of color, informational graphics and the modular format. Offset printing, used by 57% of dailies in 1988, was at 80% of them in 1993.[24]

Method:

In this study, ten newspapers from the top ten groups by circulation [See Table 1] were selected using an interval sampling method from the *1994 Editor & Publisher Yearbook*. A letter was sent to the individual listed as the managing editor or managing editor-graphics in December 1994 asking that five front pages from Dec. 5-9 be sent. A second mailing occurred in January 1995. Because five newspapers were not received from one of the top ten groups, the managing editors from ten papers in the eleventh group received the second mailing.

Research Questions:

Which front page design elements are common among newspapers within the same group?

Do the newspapers in one group use modern design elements[25] more than newspapers in another group?

Characteristics of Sample:

Responses were received from at least five newspapers from each group. Of the 100 newspapers, 66 responded (return rate of 66%). [See Table 2]

Findings:

Gannett Co. Inc.

N=6

Five of the six newspapers used a modular design for their front pages; and four varied the width of their columns everyday. One newspaper averaged four or fewer stories on page one; four averaged either five or six; and one averaged more than six. Five of the newspapers did not have a pattern for their lead story placement. Three newspapers ran infographics; two were charts and one was a map. One used a digest on the left of the page. All newspapers ran their dominant photographs in the middle of the page; three ran them in a package.[26]

Four of the six used a modern flag with an serif typeface; and two used a traditional oldstyle typeface. Five used teasers; teaser content included photographs, artwork and headlines.

Two newspapers used a serif face for all headlines; two used to a sanserif for the major story; and two used a sanserif face for all headlines.

All newspapers ran four-color photographs; however, four ran four-color everyday. Four newspapers ran some of their mug shots in black and white. Five newspapers used spot

color on tooling lines; two on artwork; two on screens; and two on infographics.

One newspaper included modern elements everyday; three were mostly modern, and two used a combination of modern and non-modern elements. [See Table 3]

Knight-Ridder:

N=5

All newspapers used a modular design for their front pages; three of them varied the width of their columns everyday. One newspaper averaged four or fewer stories on page one; three averaged either five or six; and one averaged more than six. Three did not have a pattern for their lead story placement. Three newspapers ran infographics; one was a chart and two were maps. None ran a digest. All newspapers ran their dominant photograph in the middle of the page; three ran it as part of a package.

Four newspapers used a modern flag with a serif typeface; one used a flag with an oldstyle typeface. All used teasers. Teaser content included artwork, headlines, four-color photographs or the index.

Three newspapers used all serif headlines; two used to a sanserif type for its lead story.

Pictures for all newspapers were four-color, except for two that ran their mugs shots in black and white. Three newspapers used spot color on tooling lines; two on screens; three on artwork; and two on infographics.

Three newspapers were mostly modern and two combined modern and non-modern elements. [See Table 4]

Newhouse Newspapers

N=8

Five of the eight newspapers used a modular format design for their front pages; and five varied the width of columns everyday. One newspaper averaged four or fewer stories on page one; five averaged either five or six; and two averaged more than six. Six of the

newspapers did not have a pattern for their lead story placement. Seven newspapers ran at least one infographic; six ran maps; and one ran a chart. Three ran a digest--one across the bottom; one on the left; and one as a teaser. Seven newspapers ran their dominant photographs in the middle of the page; four ran them as a part of a package.

Seven newspapers used a serif type for its flag; one used an oldstyle typeface. Six of the papers ran teasers. Teaser content included photographs, artwork, index and headlines.

Three newspapers used serif typeface; two used a sanserif face; and one used to a sanserif face for its main story.

Four newspapers ran their page one photographs in four-color everyday; one ran its mugs in four-color. Four newspapers ran spot color on tooling lines; six on artwork; two on screens; and four on infographics.

One newspaper included modern elements everyday; two were mostly modern; two were a combination of modern and non-modern elements; and three did not use modern elements. [See Table 5]

Times-Mirror

N=5

Four of the five newspapers used a modular design for their front pages; varied the column width everyday. One newspaper averaged four or fewer stories on page one; three averaged either five or six; and one averaged more than six. Three of the newspapers did not have a pattern for their lead story placement. Two ran infographics; both were charts. Two newspapers ran a digest, both on the left of the page. All newspapers ran their dominant photographs in the middle of the page; two ran them as part of a package.

Two newspapers used an oldstyle typeface for their flag; three used a serif face. Three ran teasers. Teaser content included artwork and headlines.

Two newspapers used a serif face for their headlines; two used a sanserif; and one used from a serif to a sanserif for its major story.

All newspapers used four-color photographs; however, two also ran black and white photographs, including mugs shots. Three newspapers used spot color on tooling lines; one on screens; and one on infographics.

One newspaper included modern elements everyday; one was mostly modern; two used a combination of modern and non-modern elements, and one used non-modern elements. [See Table 6]

New York Times Co.

N=8

One of the eight newspapers used a modular design for its front page; and five varied their column width everyday. Six newspapers averaged either five or six stories on page one; and two averaged more than six. Five of the newspapers placed their main story on the right, while three used the middle or top of the page. Six newspapers ran infographics; four were charts and two were maps. Three ran a digest; two on the left and one across the bottom. Six newspapers ran their dominant photograph in the middle of the page; two ran them as part of a package.

Six of the newspapers used a modern flag with a serif typeface; two ran a traditional oldstyle typeface. Four newspapers used teasers. Teaser content included photographs, artwork and headlines.

Three newspapers used a serif face for their headlines; five used to a sanserif for the major story.

Six of the newspapers ran four-color photographs everyday; one used four-color and black and white; and one never used a four-color photograph. Two ran all mugs shots in black and white; and two ran them in color. Six newspapers used spot color for tooling lines; one for screens; two for infographics; and two for artwork.

Two newspapers were mostly modern; three used a combination of modern and non-modern elements; and three used non-modern elements. [See Table 7]

Thomson Newspapers Inc.

N=5

One of the five newspapers used a modular design for their front pages; four varied the width of their columns everyday. One newspaper averaged four or fewer stories; four averaged either five or six. Two of the papers did not have any pattern for their lead story placement; two always placed the major story on the right. No newspaper ran a infographic. One ran a digest in the left column. Three of the newspapers did not have a pattern for the placement of their dominant photograph. No newspaper ran a package.

All of the newspapers used a modern serif for their flags. Two ran teasers. Teaser content included photos and artwork.

One newspaper used a serif face for all headlines; four used a combination of both sanserif and serif.

Five newspapers ran every photograph, except for some mug shots, in four-color. Five newspapers ran tooling lines in spot color; five on screens; and one on artwork.

One newspaper was mostly modern; two used a combination of modern and non-modern elements; and two used non-modern elements. [See Table 8]

Cox Enterprises Inc.

N=7

Three of the seven newspapers used a modular format; six varied the width of their columns everyday. One newspaper averaged four or fewer stories on page one; five averaged either five or six; and one averaged more than six. Four of the newspapers did not have a pattern for their lead story placement. Five ran infographics; three were maps and two were charts. Three ran a digest in the left column. Six of the newspapers ran their dominant photograph in the middle o the page; four ran it as part of a package.

Four of the seven newspapers used a modern flag with a serif typeface; three used a

traditional oldstyle typeface. Six used teasers. Teaser content included: photos, artwork and headlines.

All of the newspaper used a combination of serif and sanserif typeface for their headlines.

All newspapers ran four-color photographs everyday; however, one newspaper used one black and white mug shot. Six newspapers used spot color on tooling lines; five used it on screens; three on infographics; and two on artwork.

Three newspapers included modern elements everyday; two were mostly modern; one used a combination of modern and non-modern elements; and one used non-modern elements. [See Table 9]

Scripps Howard

N=8

Six of the eight newspapers used a modular design for their front pages; and four varied the width of their columns everyday. Two newspapers averaged four or fewer stories on page one; and six averaged either five or six. Five of the newspapers did not have a pattern for their lead story placement. Five of the newspapers ran infographics; four were maps and one was a chart. Three ran digests; two on the left and one on the right of the page. Seven ran their dominant photograph in the middle of the page; three of them in a package.

Seven used a modern serif flag; one used a traditional oldstyle typeface. Five used teasers. Teaser content included photographs, artwork, screens or the Scripps Howard logo.

Four of the newspapers used a serif face for every headline; four used a sanserif face.

All photographs for five newspapers ran in four-color everyday. One newspaper ran its mugs shots in black and white. All newspapers used spot color. Two ran tooling lines in spot color; two ran infographics; two ran artwork; and one ran screens.

Three newspapers included modern elements everyday; three were mostly modern; and two used a combination of modern and non-modern. [See Table 10]

Media News Group

N=8

None of the newspapers used a modular design; and five varied the width of their columns everyday. Seven newspapers averaged either five or six stories on page one; one averaged more than six. None of the newspapers had a pattern for their lead story placement. Four newspapers ran infographics; two were charts and two were maps. Two newspapers ran digests; one across the bottom and one on the left. All newspapers ran their dominant photograph in the middle of the page; three ran them in a package.

Five of the newspapers used a modern flag with a serif face; and three used a traditional oldstyle typeface. Seven newspapers used teasers. Teaser content included photographs; headlines, artwork and stories.

Three newspapers used a serif face for all headlines; two used a sanserif for all headlines; and one used serif italics for the main headline.

All newspapers used four-color photographs; however, three papers used four-color everyday. Seven newspapers ran some of their mug shots in black and white. Six newspapers ran tooling lines in spot color; two ran artwork; and one ran screens and infographics.

One newspaper included modern elements everyday; three were mostly modern; two used a combination of modern and non-modern elements; and two used non-modern elements. [See Table 11]

Freedom Newspapers Inc.

N=6

Four of the six newspapers used a modular design for their front pages; and three varied the width of their columns everyday. Two newspapers averaged four or fewer stories on page one; four averaged either five or six. Two of the six ran infographics. One ran one chart; another ran one map. Four of the newspapers ran their lead story at the top or the middle. Four ran a

digest; three on the left and one on the right. Three of the newspapers ran their dominant photograph in the middle of the page; two ran it as part of a package. Three did not have a pattern of placement.

All used a modern flag with a serif typeface. Two newspapers used teasers. Teaser content was limited to type and artwork.

Four newspapers used a serif face for all headlines; one used a sanserif face for all stories; one used the main story to a sanserif face.

All newspapers ran four-color photographs; however, four ran four-color everyday; Five newspapers used spot color on tooling lines; two on artwork; one on screens; and one on infographics.

One newspaper included modern elements everyday; two were mostly modern; and three used non-modern elements. [See Table 12]

Discussion

This content analysis of 66 dailies representing 10 newspaper groups found a reasonably high degree of appearance conformity within the sample; 77% of the newspapers used a modern flag, 65% used teasers, 56% employed a modular format, 65% of (non-mug shot) front page photos were in color, and 81% of the newspapers averaged between 4 and 6 page-one articles.

However, these design commonalities are across the entire sample rather than within any particular chain of newspapers. For example, among the eight Newhouse newspapers: five used a modular format and three used a non-modular format, four of the newspapers published only color photos and four mixed color with black and white, three papers published a front-page digest and five did not.

A newspaper's membership in a particular chain appears to have no impact on its use of design elements. Elaine Rodriquez, spokewoman from Knight-Ridder, said "Each individual newspaper is responsible for it own [design]. No one is in charge of a corporate look." Her views were echoed by representatives of Gannet and Media News.

Without logos such as the Scripps Howard lighthouse or the Freedom Newspapers' torch, a newspaper could not be labeled as a member of a particular group solely based on its appearance. There is no such thing as a "Knight-Ridder look" or a "Thomson look;" a Gannett newspaper is as likely to resemble a Knight-Ridder newspaper in design as it is to resemble another Gannett paper, or for that matter, an independent newspaper.

Overall, 11 of the 66 papers were deemed "completely modern" in their use of design elements, 22 were "mostly modern," 18 presented a mixture of modern and non-modern elements and 15 were overwhelmingly non-modern in their use of design elements. Within each chain, the combined percentage of "completely modern" and "mostly modern" newspapers was: Freedom (50%); New York Times (25%); Newhouse (38%); Media News (50%); Cox (71%); Thomson (20%); Scripps Howard (75%); Gannett (67%); Times Mirror (40%) and Knight-Ridder (60%). [See Table 13]

In response to editor Burgin's comment that all newspapers today look alike: they do not. Use of the similar design elements or design techniques might create some ostensible similarities, but not to say that all daily newspapers look alike based on similar use of design elements, would be like saying that all 19th century French impressionist paintings look alike because they use similar elements and techniques. Differing content, placement of elements, and other variations--not to mention distinctive flags--render each newspaper unique, despite the common usage of graphic devices and strategies.

If any single chain of newspapers appears to stand out from the rest of the field, it is Thomson Newspaper, a group of 109 newspapers with an average circulation of 19,000, making it the "small-newspaper chain;" most of its newspapers have circulations less than 20,000. Four of the five Thomson newspapers in the sample used a non-modular format; two of the five published teasers; none printed charts or maps; one in five had a front-page digest; and three of five used some black and white page-one photographs. Based on these preliminary data, future studies might consider circulation as a predictor of modern newspaper design adoption.

Newspapers in this study ranged in circulation from 8,274 to 1,089,690, with 41 of the 66

newspapers having a daily circulation under 50,000 and 19 of those 66 being under 25,000. Generally, the larger (i.e. above 50,000 circulation) newspapers had better packaging of elements, more use of modern devices and larger photographs on their front pages. Glimpses of non-modern design elements surfaced more frequently in the lower-circulation dailies. There may exist a modern design adoption gap between the larger and smaller-circulation newspapers.

Endnotes

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[3]The most common definition of a chain is "ownership of two or more newspapers in different cities by a single firm or individual." In B.M. Compaine's *Who owns the media?* 2nd ed. (White Plains, N.Y.: Knowledge Industry Publications, 1982).

[4]Kevin Barnhurst argued in his 1993 paper that in Peru, a newspaper used its page design to downplay news about a controversial anti-government group.

[5]Ben H. Bagdikian, *The Media Monopoly* (Boston: Beacon Press, 1990).

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[9]Dwight William Jensen, "A Quantitative Profile of Gannett Newspapers," (Revised version of a paper presented to AEJMC, Gainesville, FL, 1984).

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[17]Byron St. Dizier, "Editorial Page Editors and Endorsements: Chain Owned vs. Independent Papers" (Paper presented to the AEJMC, Norman, OK, 1988).

[18]Kenneth Rystrom, "Apparent Impact of Endorsements by Group and Independent Newspapers," *Journalism Quarterly* 64 (1987): 449-453, 532.

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[20]Martha N. Matthews, "Newspaper Ownership and Publisher Autonomy: A Ranking of the Chains," (unpublished Ph.D. diss., University of North Carolina, 1994).

[21]W.B. Blankenburg and G.W. Ozanich, "The Effects of Public Ownership on the Financial Performance of Newspaper Corporations," *Journalism Quarterly* 70 (1993): 68-75.

[22]Matthews.

[23]Former editor of the *Dallas Times-Herald*, as quoted in Matthews.

[24]Steve Pasternack and Sandra H. Utt, "A Study of America's Front Pages: A 10-year Update," (Paper presented to the AEJMC, Atlanta, GA, 1994).

[25]Modern graphic devices include: flag style, use of width variation, number of stories beginning, lead story placement, overall style of page, use of tooling lines, screens, charts, maps and artwork, use of packages, use of spot color, use of four-color, dominant photo location, use of teasers, digest and headline style.

[26]A package is defined as playing a story, photo(s) or artwork(s) and headline(s) as a unit, usually in a box.

Table 1
Largest U.S. Newspaper Companies

Company	Daily Circulation	Number Dailies	Average Circulation
Gannett Co., Inc.	5,843,328	83	70,401
Knight-Ridder Inc.	3,678,200	28	131,364
Newhouse Newspapers	2,983,429	26	114,747
Times Mirror Co.	2,713,742	11	246,704
New York Times Co.	2,471,587	25	98,863
Thomson Newspapers Inc.	2,072,649	109	19,015
Cox Enterprises Inc.	1,312,239	19	69,065
Scripps Howard	1,300,391	19	68,442
Hearst Newspapers	1,256,202	12*	104,684
Media News Group	1,045,406	17	61,494
Freedom Newspapers Inc.	943,227	26	36,278

*Five newspapers did not respond; therefore, the eleventh group was included.

Table 2
Responding Papers' Daily Circulation by Group

Gannett Co. Inc.	
The Des Moines [IA] Register	187,746
The [San Bernardino, CA] Sun	83,812
The [White Plains, NY] Reporter Dispatch	46,970
Norwich [CT] Bulletin	33,621
Muskogee [OK] Daily Phoenix	18,908
The Ithaca [NY] Journal	18,780
Knight-Ridder Inc.	
San Jose [CA] Mercury News	282,488
Pioneer Press [St. Paul, MN]	214,541
Post Tribune [Gary, IN]	74,155
The [Myrtle Beach, SC] Sun News	38,229
The [Milledgeville, GA] Union-Recorder	8,352
Newhouse Newspapers	
Union News [Springfield, MA]	108,605
The Flint [MI] Journal	102,226
Kalamazoo [MI] Gazette	65,836
The [Harrisburg, PA] Patriot	62,652
The Saginaw [MI] News	56,577
The Ann Arbor [MI] News	51,578
The Muskegon [MI] Chronicle	47,196
The Bay City [MI] Times	39,921
Times Mirror Co.	
Los Angeles [CA] Times	1,089,690
The Hartford [CT] Courant	229,504
The Morning Call [Allentown, PA]	137,735
The [Stamford, CT] Advocate	29,987
Greenwich [CT] Time	13,323
The New York Times Co.	
Sarasota [FL] Herald-Tribune	122,606
The [Lakeland, FL] Ledger	82,151
Morning Star [Wilmington, NC]	52,988
Santa Barbara [CA] News-Press	52,324
Times Daily [Florence, AL]	34,499
The Gadsden [AL] Times	30,441
The Courier [Houma, LA]	20,108
The Daily Corinthian [Corinth, MS]	8,942
Thomson Newspapers Inc.	
San Gabriel Valley [CA] Tribune	56,269
Portsmouth [NH] Herald	15,276
Northwest Arkansas Times [Fayetteville, AR]	12,791
Griffin [GA] Daily News	11,929
The Leavenworth [KS] Times	8,685

Cox Enterprises Inc.	
The Atlanta [GA] Constitution	299,669
Austin [TX] American-Statesman	173,105
Dayton [OH] Daily News	171,667
The Daily Sentinel [Grand Junction, CO]	30,264
Longview [TX] News-Journal	28,967
The Yuma [AZ] Daily Sun	16,482
The Daily Sentinel [Nacogdoches, TX]	8,274
Scripps Howard	
The Commercial Appeal [Memphis, TN]	183,185
The Knoxville [TN] News-Sentinel	123,904
The Evansville [IN] Courier	64,260
Birmingham [AL] Post Herald	60,129
Naples [FL] Daily News	44,068
Kentucky Post [Covington, KY]	43,917
Stuart [FL] News	33,108
El Paso [TX] Herald Post	25,150
Media News Group	
The Houston [TX] Post	284,220
The North Jersey Herald News [Passaic, NJ]	58,757
The Tribune Democrat [Johnstown, PA]	48,530
Tri-Valley Herald [Livermore, CA]	34,140
Potomac News [Woodbridge, VA]	27,703
Las Cruces, [NM] Sun-News	20,801
Daily News-Miner [Fairbanks, AK]	17,860
Today's Sunbeam [Salem, NJ]	10,296
Freedom Newspapers Inc.	
The Lima [OH] News	35,555
Times-News [Burlington, NC]	29,074
Fort Pierce [FL] Tribune	26,118
Delta Democrat Times [Greenville, MS]	13,671
The Free Press [Kinston, NC]	13,220
Porterville [CA] Recorder	12,919

Table 3
Gannett Co. Inc.

N=6

Flag:		
	Modern	4
	Traditional	2
Teasers:		
	(Papers using)	5
	Content:*	
	Photos	4
	Artwork	2
	Headlines Only	1
Format:		
	Modular	5
	Non-Modular	1
Vary Columns:		
	(Papers doing each day)	4
Page 1 Stories:		
	4 or less	1
	5-6	4
	More than 6	1
Lead story placement:		
	Always middle/top	1
	Always right	0
	No: pattern	5
Digest:	Yes	1
	No	5
Headlines Type:		
	All serif	2
	All sanserif	2
	Mix	2
Infographics:*		
	Charts	2
	Maps	1
	None	3
Photography:		
	All color each day	5
	Some B/W	1
Dominant Photo Placement:		
	Always middle	6
	No: pattern	0
Mug shots:		
	All Color	2
	All Black/White	0
	Mix	4
	No Mugs	0
Spot Color:*		
	Tooling Lines	5
	Screens	2
	Infographics	2
	Artwork	2
Packages:		
	(Number of papers using)	3
Use of Modern Elements:		
	Completely Modern	1
	Mostly Modern	3
	Mixture	2
	No Modern Elements	0

*Totals may be greater than the numbers of newspapers

Table 4
Knight-Ridder, Inc.

N=5

Flag:		
	Modern	4
	Traditional	1
Teasers:		
	(Number of papers using)	5
	Content:*	
	Photos	4
	Artwork	3
	Headlines Only	1
Format:		
	Modular	5
	Non-Modular	0
Vary Columns:		
	(Number doing each day)	3
Page 1 Stories:		
	4 or less	1
	5-6	3
	More than 6	1
Lead story placement:		
	Always middle/top	1
	Always right	1
	No: pattern	3
Digest:	Yes	0
	No	5
Headlines Type:		
	All serif	3
	All sanserif	0
	Mix	2
Infographics:*		
	Charts	1
	Maps	2
	None	3
Photography:		
	All color each day	5
	Some B/W	0
Dominant Photo Placement:		
	Always middle	5
	No pattern	0
Mug shots:		
	All Color	2
	All Black/White	0
	Mix	2
	No mugs	1
Spot Color:*		
	Tooling Lines	3
	Screens	2
	Infographics	2
	Artwork	3
Packages:		
	(Number of papers using)	3
Use of Modern Elements:		
	Completely Modern	0
	Mostly Modern	3
	Mixture	2
	No Modern Elements	0

*Totals may be greater than the number of newspapers.

Table 5
Newhouse Newspapers

N=8

Flag:		
	Modern	7
	Traditional	1
Teasers:		
	(Number of papers using)	6
	Content:*	
	Photos	4
	Artwork	5
	Headlines Only	0
Format:		
	Modular	5
	Non-Modular	3
Vary Columns:		
	(Number doing each day)	5
Page 1 Stories:		
	4 or less	1
	5-6	5
	More than 6	2
Lead story placement:		
	Always middle/top	2
	Always right	0
	No pattern	6
Digest:	Yes	3
	No	5
Headlines Type:		
	All serif	4
	All sanserif	2
	Mix	2
Infographics:*		
	Charts	1
	Maps	6
	None	1
Photography:		
	All color each day	4
	Some B/W	4
Dominant Photo Placement:		
	Always middle	7
	No pattern	1
Mug shots:		
	All Color	1
	All Black/White	4
	Mix	2
	No Mugs	1
Spot Color:*		
	Tooling Lines	6
	Screens	2
	Infographics	4
	Artwork	6
Packages:		
	(Number of papers using)	4
Use of Modern Elements:		
	Completely Modern	1
	Mostly Modern	2
	Mixture	2
	No Modern Elements	3

*Totals may be greater than the number of newspapers.

Table 6
Times Mirror Co.

N=5

Flag:		
	Modern	3
	Traditional	2
Teasers:		
	(Number of papers using)	3
	Content:*	
	Photos	0
	Artwork	1
	Headlines Only	2
Format:		
	Modular	4
	Non-Modular	1
Vary Columns:		
	(Number doing each day)	2
Page 1 Stories:		
	4 or less	1
	5-6	3
	More than 6	1
Lead story placement:		
	Always middle/top	2
	Always right	0
	No pattern	3
Digest:	Yes	2
	No	3
Headlines Type:		
	All serif	2
	All sanserif	2
	Mix	1
Infographics:*		
	Charts	2
	Maps	0
	None	3
Photography:		
	All color each day	3
	Some B/W	2
Dominant Photo Placement:		
	Always middle	5
	No pattern	0
Mug shots:		
	All Color	0
	All Black/White	0
	Mix	3
	No Mugs	2
Spot Color:*		
	Tooling Lines	3
	Screens	2
	Infographics	1
	Artwork	0
Packages:		
	(Number of papers using)	2
Use of Modern Elements:		
	Completely Modern	1
	Mostly Modern	1
	Mixture	2
	No Modern Elements	1

*Totals may be greater than the number of newspapers.

Table 7
The New York Times Co.

N=8

Flag:		
	Modern	6
	Traditional	2
Teasers:		
	(Number of papers using)	4
	Content:*	
	Photos	3
	Artwork	2
	Headlines Only	1
Format:		
	Modular	1
	Non-Modular	7
Vary Columns:		
	(Number doing each day)	5
Page 1 Stories:		
	4 or less	0
	5-6	6
	More than 6	2
Lead story placement:		
	Always middle/top	3
	Always right	5
	No pattern	0
Digest:	Yes	3
	No	5
Headlines Type:		
	All serif	3
	All sanserif	0
	Mix	5
Infographics:*		
	Charts	4
	Maps	2
	None	2
Photography:		
	All color each day	6
	Some B/W	2
Dominant Photo Placement:		
	Always middle	6
	No pattern	2
Mug shots:		
	All Color	2
	All Black/White	2
	Mix	0
	No Mugs	4
Spot Color:*		
	Tooling Lines	6
	Screens	1
	Infographics	2
	Artwork	2
Packages:		
	(Number of papers using)	2
Use of Modern Elements:		
	Completely Modern	0
	Mostly Modern	2
	Mixture	3
	No Modern Elements	3

*Totals may be greater than the number of newspapers.

Table 8
Thomson Newspapers Inc.

N=5

Flag:		
	Modern	5
	Traditional	0
Teasers:		
	(Number of papers using)	2
	Content:*	
	Photos	2
	Artwork	2
	Headlines Only	0
Format:		
	Modular	1
	Non-Modular	4
Vary Columns:		
	(Number doing each day)	4
Page 1 Stories:		
	4 or less	1
	5-6	4
	More than 6	0
Lead story placement:		
	Always middle	1
	Always right	2
	No pattern	2
Digest:	Yes	1
	No	4
Headlines Type:		
	All serif	1
	All sanserif	0
	Mix	4
Infographics:*		
	Charts	0
	Maps	0
	None	5
Photography:		
	All color each day	2
	Some B/W	3
Dominant Photo Placement:		
	Always middle	2
	No pattern	3
Mug shots:		
	All Color	1
	All Black/White	3
	Mix	0
	No Mugs	1
Spot Color:*		
	Tooling Lines	5
	Screens	5
	Infographics	0
	Artwork	1
Packages:		
	(Number of papers using)	0
Use of Modern Elements:		
	Completely Modern	0
	Mostly Modern	1
	Mixture	2
	No Modern Elements	2

*Totals may be greater than the number of newspapers.

Table 9
Cox Enterprises, Inc.

N=7

Flag:		
	Modern	4
	Traditional	3
Teasers:		
	(Number of papers using)	6
	Content:*	
	Photos	2
	Artwork	2
	Headlines Only	2
Format:		
	Modular	3
	Non-Modular	4
Vary Columns:		
	(Number doing each day)	6
Page 1 Stories:		
	4 or less	1
	5-6	5
	More than 6	1
Lead story placement:		
	Always middle/top	3
	Always right	0
	No pattern	4
Digest:	Yes	3
	No	4
Headlines Type:		
	All serif	0
	All sanserif	0
	Mix	7
Infographics:*		
	Charts	2
	Maps	3
	None	2
Photography:		
	All color each day	7
	Some B/W	0
Dominant Photo Placement:		
	Always middle	6
	No pattern	1
Mug shots:		
	All Color	6
	All Black/White	1
	Mix	0
	No Mugs	0
Spot Color:*		
	Tooling Lines	6
	Screens	5
	Infographics	3
	Artwork	2
Packages:		
	(Number of papers using)	4
Use of Modern Elements:		
	Completely Modern	3
	Mostly Modern	2
	Mixture	1
	No Modern Elements	1

*Totals may be greater than the number of newspapers.

Table 10
Scripps Howard

N=8

Flag:		
	Modern	7
	Traditional	1
Teasers:		
	(Number of papers using)	5
	Content:*	
	Photos	4
	Artwork	4
	Headlines Only	1
Format:		
	Modular	6
	Non-Modular	2
Vary Columns:		
	(Number doing each day)	4
Page 1 Stories:		
	4 or less	2
	5-6	6
	More than 6	0
Lead story placement:		
	Always middle/top	2
	Always right	1
	No pattern	5
Digest:	Yes	3
	No	5
Headlines Type:		
	All serif	4
	All sanserif	3
	Mix	1
Infographics:*		
	Charts	1
	Maps	4
	None	3
Photography:		
	All color each day	4
	Some B/W	4
Dominant Photo Placement:		
	Always middle	7
	No pattern	1
Mug shots:		
	All Color	7
	All Black/White	1
	Mix	0
	No Mugs	0
Spot Color:*		
	Tooling Lines	2
	Screens	1
	Infographics	2
	Artwork	2
Packages:		
	(Number of papers using)	3
Use of Modern Elements:		
	Completely Modern	3
	Mostly Modern	3
	Mixture	2
	No Modern Elements	0

*Totals may be greater than the number of newspapers.

Table 11
Media News Group

N=8

Flag:		
	Modern	5
	Traditional	3
Teasers:		
	(Number of papers using)	7
	Content:*	
	Photos	5
	Artwork	6
	Headlines Only	0
Format:		
	Modular	0
	Non-Modular	8
Vary Columns:		
	(Number doing each day)	5
Page 1 Stories:		
	4 or less	0
	5-6	7
	More than 6	1
Lead story placement:		
	Always middle/top	0
	Always right	0
	No pattern	8
Digest:	Yes	2
	No	6
Headlines Type:		
	All serif	2
	All sanserif	2
	Mix	4
Infographics:*		
	Charts	2
	Maps	2
Photography:		
	All color each day	3
	Some B/W	5
Dominant Photo Placement:		
	Always middle	8
	No pattern	0
Mug shots:		
	All Color	1
	All Black/White	7
	Mix	0
	No Mugs	0
Spot Color:*		
	Tooling Lines	6
	Screens	1
	Infographics	1
	Artwork	2
Packages:		
	(Number of papers using)	3
Use of Modern Elements:		
	Completely Modern	1
	Mostly Modern	3
	Mixture	2
	No Modern Elements	2

*Totals may be greater than the number of newspapers.

Table 12
Freedom Newspapers Inc.

N=6

Flag:		
	Modern	6
	Traditional	0
Teasers:		
	(Number of papers using)	2
	Content:*	
	Photos	1
	Artwork	1
	Headlines Only	1
Format:		
	Modular	4
	Non-Modular	2
Vary Columns:		
	(Number doing each day)	3
Page 1 Stories:		
	4 or less	2
	5-6	4
	More than 6	0
Lead story placement:		
	Always middle/top	4
	Always right	0
	No pattern	2
Digest:	Yes	4
	No	2
Headlines Type:		
	All serif	4
	All sanserif	1
	Mix	1
Infographics:*		
	Charts	1
	Maps	1
	None	4
Photography:		
	All color each day	4
	Some B/W	2
Dominant Photo Placement:		
	Always middle	3
	No pattern	3
Mug shots:		
	All Color	3
	All Black/White	1
	Mix	0
	No Mugs	2
Spot Color:*		
	Tooling Lines	5
	Screens	1
	Infographics	1
	Artwork	2
Packages:		
	(Number of papers using)	2
Use of Modern Elements:		
	Completely Modern	1
	Mostly Modern	2
	Mixture	0
	No Modern Elements	3

*Totals may be greater than number of newspapers.

Table 13
Modern Devices Usage By Group

Group	Completely Modern	Mostly Modern	Mixture	Non-Modern
Gannett Co. Inc.	1	3	2	0
Knight-Ridder Inc.	0	3	2	0
Newhouse Newspapers	1	2	2	3
Times Mirror Co.	1	1	2	1
New York Times Co.	0	2	3	3
Thomson	0	1	2	2
Cox Enterprises	3	2	1	1
Scripps Howard	3	3	2	0
Media News Group	1	3	2	2
Freedom Newspapers Inc.	1	2	0	3
Totals	11	22	18	15

Public Perceptions of Photographic Credibility in the Age of Digital Manipulation

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Introduction

Any discussion of "manipulated" photography must begin with the recognition that photography is itself an inherent manipulation — a manipulation of light, a process with many steps and stages, all influenced by the biases and subjective interpretations of the photographer, printer, editor, and viewer.[1] And yet throughout the century and a half of its existence, one branch of photography — photojournalism — has acquired a special standing in the public mind, a confidence that a photo can reflect reality in a uniquely compelling and credible way.[2]

It might be said that photojournalists and readers have arrived at an understanding, a compact of sorts, a set of assumptions that provides the foundation for photojournalism's long-lived credibility. This set of assumptions, which has been called the reader's "Qualified Expectation of Reality,"[3] derives from professional codes of ethics, actual practices, some awareness of rudimentary photographic processes, and a public faith founded on decades of experience. Consumers of media have long used terms such as "doctored," "staged," "trick" or "special effects" photography to distinguish images that fall outside this set of assumptions. For images that fall within it, our faith runs deep. We go so far as to link quite comfortably the words "photographic" and "proof," even in courts of law.

But what will become of photojournalistic believability in this digital age, when viewers are bombarded with images in which characters are "morphed" into phantasms, and fanciful dreamscapes appear to be as real as any photograph?[4] Will the public come to view the *un*altered photo as the exception? *The New York Times* photography critic Andy Grunberg predicted that, "In the future, readers of newspapers and magazines will probably view news pictures more as illustrations than as reportage, since they can no longer distinguish between a genuine image and one

that has been manipulated."[5] Will his prediction come to pass, or can the public's faith in photography as a qualified reflection of reality survive the increasing use of digital manipulation? Can journalists maintain a fortress of credibility around "real" images, isolating them in the public mind from "photo illustrations"?

Recently developed computerized processes allow us to add, remove, rearrange and even create people, objects and backgrounds in an existing photograph, or to build a new composite "photograph." In "Digital Photography and the Ethics of Photofiction: Four Tests for Assessing the Reader's Qualified Expectation of Reality" (1994), Professor Tim Gleason and I suggested that although photography has been subject to enhancement, bias and distortion since its inception, the rapid adoption of these new technologies provides more opportunities than ever for "fictionalizing" photographic images.[6] We documented evidence that altered photography is contributing to a loss of confidence in the editorial process,[7] proposed a definition of our term "photofiction,"[8] and suggested several credibility-preserving guidelines for photo-alteration in editorial contexts.[9]

We pointed out that valuable research[10] has documented professional attitudes toward, for example, altered photos in "news" versus "feature sections," but we asked whether readers knew or cared about distinctions made in the profession or in academia. We wrote: "It is the public who will decide whether editorial photography's credibility survives the drastic, undetectable photo-manipulation afforded by widely available software, and thus far we [the profession, academia] have failed to adequately address issues of public perception, such as readers' differing expectations when considering, say, the covers of an established news magazine versus a notorious satirical publication."[11] We concluded: "If we are to preserve photography's authority, we must look beyond academic discussions and *establish guidelines reflective of public attitudes* [emphasis added]."[12] This pilot project is a step toward that goal.

Research Questions

In fall 1994, I surveyed 330 University of Oregon journalism students to ascertain what kinds of photo alteration are deemed acceptable by one narrow segment of the media audience. This pilot study — a nonrepresentative, nonrandom sample — addresses editorial (nonadvertising) material in various print media. Future projects will explore several issues listed at the end of this article; this report addresses the following questions:

- Are readers correct in their assumptions about whether selected images are "real" or "trick" photos?
- Regarding selected examples of altered photography, do readers accept any or all of them as responsible and ethical?
- Regarding the acceptability of altered photography, do readers apply different standards to newspapers, news magazines, and general interest consumer magazines?
- Are readers more willing to accept as ethical some types of manipulation than others?
- In cross-tabulating these various inquiries to variables such as gender, do any trends emerge that suggest a need for further research?

Background and methodology

My 32-question survey was distributed to three undergraduate lecture classes of journalism students — two Media And Society classes and one Visual Communication class. None of the classes had previously addressed the ethics (or any other aspect) of altered photography. Instructions for the 10-page survey were written into the questionnaire and also explained orally at each step. Respondents were asked at several points if they had any questions.

Participants read a consent form explaining that their responses were voluntary and anonymous. They were reminded at several points, in writing and orally, that "there are no wrong answers here; this is a survey of your *personal opinions.*"

Background questions covered age, sex, status (journalism pre-major, etc.), political philosophy, and the frequency of reading one or more newspapers, news magazines, and consumer magazines; watching one or more local or national TV news programs; and watching television other than news programs. The respondents were 63% female, 36% male (0.9% did not indicate sex).

One goal was to assess responses to questions presented in a variety of configurations. For example, the specified photos included a mix of actual and hypothetical cases. Second, sometimes respondents heard arguments for and against the alterations; other times no such context was provided. Finally, while some of the images were projected onto a screen, others were not displayed (all were described in writing).

The study is organized into five sections. Section I assesses the comparative credibility of newspapers, news magazines, and general interest consumer magazines. Section II gauges respondents' abilities to distinguish altered from unaltered images. Section III contrasts responses to the well-known O.J. Simpson covers of *Time* and *Newsweek*, while Section IV presents a mix of actual and hypothetical examples of altered photography and contrasts the levels of their acceptability in newspapers, news magazines, and general interest magazines. Section V addresses two well-known cases of altered photography and presents respondents with arguments for and against the alterations. Throughout the study, response percentages are rounded off to the nearest whole number, and .5 ratings are rounded upwards, accounting for totals of 99% or 101% in a few cases.

Section I

General credibility of various print media

Respondents rated the general credibility of daily newspapers nationwide, as well as nationally distributed news magazines and nationally distributed general interest consumer magazines. The terms "daily newspapers," "news magazines," and "general interest consumer magazines" were illustrated with lists of representative samples. Specified examples of daily newspapers were *The Oregonian, The New York Times* and *The Washington Post.* Examples of news magazines were: *Time, Newsweek,* and *U.S. News & World Report.* The instructions specified that "'General interest consumer' refers to a broad range of magazines typically available by subscription and also in supermarkets, bookstores, and retail stores catering to readers cf specialty publications — skiers, musicians, computer users, etc." The nine examples included *Cosmopolitan, Esquire, Macworld, National Geographic,* etc. Questions were presented in the following format:

> On a scale of 1 to 5 — 1 being very low and 5 being very high — how do you rate the credibility of daily newspapers nationwide?
>
> 1 very low
> 2 somewhat low
> 3 average
> 4 somewhat high
> 5 very high

For purposes of discussion here, the two "low" and two "high" categories are combined. The results:

1a. Credibility of print media, overall percentages

credibility	newspapers	news magazines	gen. int. mags.
low credibility (%)	7	9	26
average (%)	49	43	47
high credibility (%)	43	47	26
totals	99%	99%	99%

$X^2 = 22.41$, $P<.001$

1b. Credibility of print media, in percentages by sex

	newspapers		news magazines		general int. magazines	
credibility	female %	male %	female %	male %	female %	male %
low cred.	6	8	7	13	30	21
average	53	43	45	39	50	43
high cred.	41	49	47	48	20	36
total %	100%	100%	99%	100%	100%	100%

$X^2 = 50.16$, $P<.001$

Table 1a: The overall credibility of general interest magazines was rated significantly lower than that of either newspapers or news magazines.

Table 1b suggests that women may view certain publications in a significantly different fashion than do men. Examining the six "low credibility" breakdowns and six "high credibility" breakdowns, the largest female/male differentials occur with regard to general interest magazines; for example, women were about half again as likely as men to rate such publications as having low credibility.

Section II

Identification of composite photography

We know that readers sometimes view altered photos in editorial contexts and mistakenly assume they are unaltered,[13] and sometimes view unaltered photos and

mistakenly assume they are altered.[14] (Terms such as "altered" and "unaltered" are used here to distinguish images that do or do not fall within the aforementioned "Qualified Expectation of Reality" that I believe readers bring to the page.)

In this survey a composite photo was defined, in writing and orally, as "one in which elements of two or more photos are combined in the lab, or on a computer, to create the impression of a single photo." Respondents were told: "The images shown in this section may or may not be composites."

Respondents were shown a slide of *Spy* magazine's Nov. 1993 cover, which was explained in writing, and orally, as follows (also shown below are the question and responses in percentages; quoted descriptions of publications are from *Bacon's Magazine Directory*, 1993):

> First Lady Jackie Kennedy was wearing a pink suit like the one shown here at the time her husband, President John F. Kennedy, was assassinated in Dallas in 1963. Actress Daryl Hannah, pictured here, has been romantically linked to the late President's son, John F. Kennedy Jr. The caption to this cover photo reads "Daryl Hannah as Mrs. John F. Kennedy Jr.?" *Spy* is an irreverent, satirical magazine covering "personalities, institutions, and culture in urban America."
>
> How likely is it that this picture is a composite or "trick" photo?

2a. *Spy*, Daryl Hannah

very likely	33%
somewhat likely	25%
no opinion	7%
somewhat unlikely	20%
very unlikely	14%
total	99%

The *Spy* image is in fact a digitally rendered composite, identified inside the magazine as a "paintbox photo composition." Respondents were asked the same

question while viewing a slide of *Esquire*'s Jan. 1994 cover, which pictured a woman nude from the waist up, her breasts cupped by hands belonging to an otherwise concealed person behind her. The photo was explained in writing and orally as follows:

> This cover photo of so-called "Hollywood Madam" Heidi Fleiss appeared on *Esquire*'s annual Dubious Achievement Awards issue. It followed by several months a similar image of singer Janet Jackson on the cover of *Rolling Stone*. *Esquire* addresses "the changing role of the American male in today's society" and covers current events, trends, fashion, profiles and fiction.
>
> How likely is it that this picture is a composite or "trick" photo?

2b. *Esquire*, Heidi Fleiss

very likely	28%
somewhat likely	32%
no opinion	8%
somewhat unlikely	20%
very unlikely	11%
total	99%

Section II discussion: We may not find it surprising that 58% of the respondents thought the *Spy* image was probably a composite, given its outrageousness and implausibility, but I would point out that slightly more than one-third thought it was somewhat or very *unlikely* to be a composite; that is, a significant number of respondents were wrong. In the case of the *Esquire* cover, *most* of the respondents were wrong. Sixty percent thought that it was likely to be a composite, which it is not.

These results echo the experience recounted here in footnote 14. While it is no longer news that some "doctored" photos look "real," some readers may now be assuming that some "real" photos are "doctored." The implications for the continued credibility of editorial photography are significant.

Section III

O.J. Simpson: *Newsweek* and *Time*

Regarding June 1994 covers of *Time* and *Newsweek* depicting O.J. Simpson, respondents were told: "These two news magazine cover images of O.J. Simpson started with the same photo, an LAPD mug shot of the former football star." The *Newsweek* slide was shown first. The instructions and question appear below:

> *Newsweek:* close inspection reveals that Simpson's hair was retouched subtly along the top edge of the image to provide contrast against the word "Newsweek."
>
> In your opinion, *Newsweek*'s alteration was:
>
> definitely unacceptable
> probably unacceptable
> I have no impression either way
> probably acceptable
> definitely acceptable

For ease of comparison here and in later tables, the two "unacceptable" and two "acceptable" tallies are combined. Results, in percentages, are broken down by sex:

3a. Newsweek: O.J. Simpson

	overall %	female %	male %
unacceptable	18	20	15
no impression	16	16	17
acceptable	65	63	68
total %	99%	99%	100%

$X^2 = .9304$, $P>.05$

The instructions, question, and combined tallies for the *Time* cover are as follows:

Time: The image was darkened and blurred, and identified inside the magazine as a "photo-illustration."

Some considered the image to be a misleading and perhaps racist or legally prejudicial attempt to make Simpson look guilty or sinister. The N.A.A.C.P.'s Benjamin Chavis charged that it portrayed him as "some kind of animal."

Time said the mug shot's "cold specificity" was "subtly smoothed and shaped into an icon of tragedy." "We knew [the mug shot] would be widely disseminated, and that gave us license, we felt, to push the image into something more interpretive or illustrative."[15]

3b. Time: O.J. Simpson

	overall %	female %	male %
unacceptable	79	83	74
no impression	6	7	5
acceptable	14	10	21
total %	99%	100%	100%

$X^2 = 4.752$, $P>.05$

Section III discussion: One could claim that including the rationales for and against the *Time* alteration weakens the credibility of the results (are respondents really addressing the issue, or are they "voting" on the superiority of one argument over another?). But I wanted to provide respondents with context so as to make their decisions more informed. Future research will pose the same question without the arguments to see if they make any difference.

Newsweek's cover was found to be generally acceptable, *Time*'s very unacceptable, and it seems reasonable to suppose that much of the difference is due to the latter's perceived racial component, the very different degrees of alteration, and perhaps some awareness of the controversy surrounding the *Time* cover. Although a

sizable portion of the group, nearly two-thirds, judged *Newsweek*'s alteration to be acceptable, I would point out that the 18% unacceptable rating is significant when one considers the minor nature of the alteration. In discussions comparing these two covers, the *Newsweek* version is often used as something of a control sample — the "unmanipulated" photo.[16]

A higher percentage of females than males (20% vs. 15%) judged the *Newsweek* alteration to be unacceptable; the discrepancy is significant, as is the similar divergence (83% to 74%) in the *Time* results. Although as a group the respondents found *Time*'s alteration to be unacceptable by a large margin, more than twice the percentage of males as females found it acceptable. The female/male divergence appears repeatedly throughout this study, raising provocative questions discussed below.

Section IV

Standards of Acceptability: Comparison of various media

For this section, respondents received the following instructions (no slides were shown):

> In the following actual or hypothetical cases, certain information is specified:
> - the type of publication involved (daily newspaper, etc.)
> - the subject matter of a particular story
> - the subject of an accompanying photograph
> - a description of how the photo was altered
>
> You are asked to judge the acceptability of the alteration.
>
> An *acceptable* alteration is within your expectations of a responsible and credible editorial (nonadvertising) photo.
>
> An *unacceptable* alteration is misleading or otherwise irresponsible.

Remember, there are no right or wrong answers here.
This is a survey of your *personal opinions*.

Example
Story: Economic outlook for family farms
Photo: a family farm
Alteration: The art director felt that a telephone pole within the borders of the photo was "distracting," so she deleted it; there was no disclosure of the alteration to readers.

In your opinion, such an alteration in a daily newspaper photo would be:

definitely unacceptable
probably unacceptable
I have no impression either way
probably acceptable
definitely acceptable

Respondents were then asked to make the same judgment regarding the same alteration in a news magazine photo, as well as in a general interest consumer magazine photo.

4a. Farm photo, overall group responses in percentages

	newspaper	news magazine	general int. mag.
unacceptable %	41	36	23
no impression %	10	12	13
acceptable %	48	51	63
total %	99%	99%	99%

$X^2 = 7.913$, $P<.05$

4b. Farm photo responses in percentages, by sex

	newspapers		news	magazines	general int. magazines	
	female %	male %	female %	male %	female %	male %
unaccept.	47	30	41	28	29	13
no impress.	10	12	12	11	14	13
acceptable	44	58	46	61	58	73
total %	101%	100%	99%	100%	101%	99%

$X^2 = 16.70$, $P<.05$

This example is hypothetical. Table 4a: If levels of acceptance reflect the strictness of standards, the overall group responses (particularly the "unacceptable" rankings) suggest that regarding altered photos, participants hold different media to different standards. By significant amounts, the standards decrease in strictness going from newspapers to news magazines to general interest magazines.

Table 4b reveals that, at least regarding some examples of altered photography, these female journalism students hold all three media to significantly stricter standards than do their male counterparts. For example, in the newspaper category, the percentage of women who found the alteration unacceptable was more than half again as high as the unacceptability rating by males; in the general interest magazine category, women selected "unacceptable" at a rate more than double that of men.

Example
Story: the success of TV show *Beverly Hills 90210*
Photo: actress Tori Spelling
Alterations: facial blemish or blemishes removed, cleavage increased, visibility of nipples enhanced, waist decreased, legs lengthened. There was no disclosure of the alterations to readers.

Respondents were asked to judge the acceptability of the alterations in a daily newspaper, a news magazine, and a general interest consumer magazine.

5a. Tori Spelling photo, overall group responses in percentages

	newspaper	news magazine	general int. mag.
unacceptable %	81	77	60
no impression %	8	8	9
acceptable %	11	15	30
total %	100%	100%	99%

$X^2 = 14.29$, $P<.01$

5b. Tori Spelling photo, responses in percentages, by sex

	newspapers		news magazines		general int. magazines	
	female %	male %	female %	male %	female %	male %
unaccept.	82	81	79	74	66	51
no impress.	8	8	7	9	7	12
acceptable	11	11	14	17	27	38
total %	101%	100%	100%	100%	100%	101%

$X^2 = 36.64$, $P<.001$

This image appeared in the Aug. 1994 issue of *Details* magazine. Table 5a: Again, the overall group responses suggest that the strictness of standards decreases by significant amounts from newspapers to news magazines to general interest magazines. General interest magazines scored almost three to one over newspapers in acceptability of the alteration. Note, however, that regardless of the type of publication, the alteration was considered strongly unacceptable.

Table 5b: All categories reveal that females again were more likely to find the alteration unacceptable, regardless of the type of publication. In general interest

magazines, women selected "unacceptable" over men by a margin of 66% to 51%. In other cases the divergence is less significant; still, it is remarkably consistent. Note also that regarding general interest magazines, females were significantly less likely to select the "no impression" option.

Story: the popularity of the movie *Rain Man*
Photo: actors Tom Cruise and Dustin Hoffman, together offscreen
Alteration: two images were joined to look as though the actors were meeting side by side when in fact they were photographed at different places and times; there was no disclosure of the alteration to readers.

Respondents were asked to judge the acceptability of the alteration in a daily newspaper, a news magazine, and a general interest consumer magazine.

6a. Cruise/Hoffman photo, overall group responses in percentages

	newspaper	news magazine	general int. mag.
unacceptable %	61	62	46
no impression %	13	13	14
acceptable %	25	25	39
total %	99%	100%	99%

$X^2 = 7.311$, $P>.05$

6b. Cruise/Hoffman photo, responses in percentages, by sex

	newspapers		news magazines		general int. magazines	
	female %	male %	female %	male %	female %	male %
unaccept.	66	54	66	55	49	41
no impress.	10	19	10	18	13	17
acceptable	24	27	24	28	37	43
total %	100%	100%	100%	101%	99%	101%

$X^2 = 15.19$, $P<.05$

This photo appeared in the Jan. 16, 1989 edition of *Newsweek*. Table 6a: Overall the alteration was generally considered unacceptable, though less objectionable than Tori Spelling's digital makeover in *Details*. There was no significant difference in the overall group responses when comparing newspapers and news magazines, but again respondents held general interest magazines to a significantly looser standard.

Table 6b: In all three types of publication, women again were more likely to judge the alteration to be unacceptable, despite the absence of any apparent sexist stereotyping. In newspapers, for example, females selected "unacceptable" over males by 66% to 54%. While the divergence is smaller in other cases, it is yet again remarkably consistent. Females were again less likely to select the "no impression" option (only about half as likely in the newspaper and news magazine categories).

Section V

Case studies: Acceptability of alterations

In this section, respondents were asked to judge the acceptability of two actual cases of altered photography, using the same definitions of "acceptable" and "unacceptable" as specified above. No images were shown. Pro and con arguments were offered for each alteration so as to allow for more informed decision making. Again, the two "unacceptable" and two "acceptable" tallies were combined. The instructions, questions, and results:

> The Coke Can
> A newspaper ran a photo of a Pulitzer Prize winning photojournalist. A Diet Coke can was optically removed from within the frame of the published image; there was no disclosure of the alteration to readers.
>
> Critics of the newspaper might argue that while the alteration may be a minor detail, the journalist's obligation is to capture reality, not to alter it. The alteration violated the expectations of readers who believe that what they see in the photo is what the photographer saw.

Defenders might argue that it was an esthetic improvement, a minor alteration that did not change the image's fundamental meaning. It actually made the photo more journalistically credible by deleting a distraction that might draw undue attention to itself or appear to be a direct or indirect product endorsement.

In your opinion, removing the can from within the frame of the newspaper photo was:

7a. the Coke can

unacceptable	37%
no impression	13%
acceptable	49%
total	99%

The Coke can photo ran in the *St. Louis Post-Dispatch.*[17] The results showed little or no significant difference in response between females and males.

National Geographic

National Geographic magazine altered a cover photo of two of the Great Pyramids of Giza, digitally "moving" them closer together to fit the cover.

Defending the alteration, the magazine's director of photography claimed that it merely achieved the same result as having the photographer move the camera during the shoot. An editor claimed that cropping [a routine procedure in which part of a photographic image is isolated for reproduction while the remainder is excluded] is a more serious alteration.

Critics might argue that achieving the same result as moving the camera is beside the point, and that comparing it to routine cropping is also pointless because cropping has long been understood and accepted by readers. However, once the image is on film, rearranging essential elements within the frame is unethical in such a photo.

This time, a significant breakdown by sex can be seen:

7b. National Geographic photo, responses in percentages, by sex

	overall %	female %	male %
unacceptable	47	56	33
no impression	13	9	19
acceptable	39	34	48
total %	99%	99%	100%

$X^2 = 11.90$, $P<.01$

Table 7b: Almost half of the respondents found the alteration to be unacceptable. Note that the female/male divergence may be more striking here than anywhere else in the study: The percentage of females who found the alteration to be unacceptable was more than half again as high as the same rating by males, despite the instructions' utter absence of gender-based content. Again, females were less than half as likely to select "no impression."

Summary; Questions for Future Research

Regarding the acceptability of altered photography in print media, this study has attempted to expand the research beyond professional and academic circles to the public sphere. It provides further evidence that readers and viewers are sometimes confused by the "reality" of widely published photos, suggests that some types of alteration are more objectionable than others and that various print media are held to different standards in this regard, and reveals that women may react differently than men to photo manipulation, even in cases when gender stereotyping is absent.

Many questions remain. How should editors and art directors respond to the public's holding general interest consumer magazines to a looser standard than

newspapers and news magazines? Does it give them carte blanche to manipulate images without disclosure,[18] or does it signal a need to bolster their publications' relatively low credibility, perhaps by tightening photo standards?

Almost half of the respondents found the *Post-Dispatch*/Coke can alteration to be acceptable, which like other results in this study raises an interesting question: What level of *public* acceptability would most publishers consider to be *professionally* adequate? Conversely stated, how much negative opinion is too much? If fully half of your readers judge a practice to be unacceptable, or have doubts, is it responsible and prudent to continue it? How high an unacceptability rating would persuade most professionals to rethink the practice in question? Ten percent? Twenty? Or would anything less than 51% certify the practice as ethically sound? Is it simply a matter of majority rule?

The consistent and sometimes striking divergences between male and female respondents were unanticipated. College women may view general interest magazines as being less credible than do men because those titles include *Cosmopolitan*, *Elle*, *Vogue*, etc.; such publications are popular among college women, manifest a relationship between advertising and editorial that would be unseemly in many other publications, and also perpetuate "the beauty myth."[19]

But why are women more likely to judge non-sexist photo manipulations to be unacceptable? It seems reasonable to suggest that compared to images of men's bodies, images of women's bodies are used more often in media of all types, that they are often highly idealized and retouched or otherwise altered, that they both reflect and perpetuate a narrow and virtually unobtainable standard of beauty in our culture, and that as a result women are keenly aware of, pressured by, perhaps resentful of, and almost certainly more sensitive to such stereotyping.[20] Perhaps women's sensitivity to sexual stereotypes "crosses over" into a heightened sensitivity to manipulated images of any kind. The notion bears further inquiry. (Might the cases in

which women were less likely to select "no impression" also be examples of this heightened sensitivity?)

It has been estimated that within five years or so, most mass-media photos will either begin as electronic photographs or be transformed into digital data during production.[21] This study suggests that unless publications adopt stricter standards for applying these new technologies, the public will continue to be misled, at least sometimes, resulting in an almost certain erosion of photo credibility and increasing the likelihood that Grunberg's prediction ("In the future, readers. . . will probably view news pictures more as illustrations than as reportage. . . .") will come to pass.

[1] In "Digital Photography and the Ethics of Photofiction: Four Tests for Assessing the Reader's Qualified Expectation of Reality" (a paper presented to the annual convention of AEJMC, Magazine Division, Atlanta, Georgia, August 1994), footnote 3, Prof. Tim Gleason and I asserted: "The long debate in the art world over the very nature of photographs has been noticeably absent in professional journalists' discussions of photography. In much of the scholarly and critical communities the claim that 'our faith in the superficial availability of reality, in its obviousness, has dwindled dramatically...and with it much of our faith in the camera as a witness' would be accepted without question; however, in journalism we cling to the faith that editorial photography is an objective reflection of reality." Grunberg, *Crisis of the Real* (1990): 102.

[2] As essayist Lance Morrow wrote, "The pictures made by photojournalists have the legitimacy of being news, fresh information. They slice along the hard edge of the present." "Imprisoning Time in a Rectangle," *Time: 150 Years of Photojournalism* (Fall 1989): 76.

[3] Wheeler and Gleason, *supra* note 1, pp. 10 - 11.

[4] W. J. Mitchell wrote: "We are approaching the point at which most of the images that we see in our daily lives, and that form our understanding of the world, will have been digitally recorded, transmitted, and processed." W. J Mitchell, "When Is Seeing Believing?: Digital Technology for Manipulating Images has Subverted the Certainty of Photographic Evidence," *Scientific American*, Feb. 1994, p. 70.

[5]Andy Grunberg, "Ask It No Questions: The Camera Can Lie," *The New York Times*, August 12, 1990, Sec. 2, p. 1.

[6] Wheeler and Gleason, *supra* note 1.

[7] The July/August 1995 issue of *American Photo* reported the results of a readers poll: To the question "Do you think that the credibility of journalism is in jeopardy because of digital photographic technology?", 88 respondents said yes, 11 said no, and 4 said "not sure." In the May 1995 issue of *Wired* magazine, p. 113, *Texas Monthly* art director D.J. Stout reported that "... altered photographs were really hurting the integrity of [*Texas Monthly*'s] cover, to the point that when we had a great photograph, nobody believed it." *Time* magazine's June 27, 1994 O.J. Simpson cover featured a computer-retouched L.A.P.D. mug shot that was identified on the contents page as a "photo-illustration." Many observers considered it misleading and perhaps racist or legally prejudicial. See To Our Readers, *Time*, July 4, 1994, p. 4. *Time*'s managing editor cited the charge by the N.A.A.C.P.'s Benjamin Chavis that it was "as if Willie Horton had stepped out of an old Republican campaign ad and into O.J.'s cleats," according to Joseph P. Kahn, "When 1 Picture Tells 2 Stories," *The Boston Globe*, June 22, 1994, Living, p. 21. *See also:* Howard Kurtz, "Time to Newsweek: What's Wrong With This Picture?", *The Washington Post*, June 24, 1994, Style, p. B1; Rita Ciolli, "Time Alters Photograph For Its Cover," *Newsday*, June 22, 1994, p. 25; "Photo Flap: Time's Altered Image Sparks Ethics Debate," *The Phoenix Gazette*, June 22, 1994, p. A2; Howard Kurtz, "Time's 'Sinister' Simpson; Cover Photo Was Computer-Enhanced," *The Washington Post*, June 22, 1994, Style, p. D1.

[8] Wheeler and Gleason, *supra* note 1. We proposed that "the term 'photofiction' can apply to any photo that has been manipulated enough during processing to change

readers' perceptions of its meaning — whether material elements in the photo are altered, added, removed within the frame or rearranged, and regardless of the method employed." We added: "Photofiction isn't new, but computer technology has made it far easier to do, accessible to many more people, and virtually impossible to detect, creating a greater potential for abuse of readers' trust than has ever existed."

9 *Ibid.* We devised the Viewfinder Test, the Technical Credibility Test, the Photojournalist's Process Test, and a test of apparent implausibility (nicknamed the "Pregnant Bruce Willis" Test, after a *Spy* magazine cover). These four tests are intended to help photographers and editors decide whether an image qualifies as "photofiction" and if so, what kind of disclosure might be appropriate. Another standard, also intended to apply to disclosure, was the Essence of The Image Test.

10 As reported in "Digital Photography and the Ethics of Photofiction," *ibid.*, a leading researcher in the field is Prof. Shiela Reaves of the University of Wisconsin-Madison. See her articles "Magazines vs. Newspapers: Editors Have Different Ethical Standards On The Digital Manipulation Of Photographs," *Visual Communication Quarterly* (vol. 2, no. 1, winter 1995, p. 4); "What's Wrong with This Picture?: Attitudes of Photographic Editors at Daily Newspapers and Their Tolerance toward Digital Manipulation" (paper presented at the annual meeting of AEJMC, Boston, MA, Aug. 1991); "Digital Alteration of Photographs in Consumer Magazines," *Journal of Mass Media Ethics* (1991): 175-181; "Digital Retouching in Newspapers," *Journal of Mass Media Ethics* (1987): 40-48; "Digital Retouching: Is There A Place For It in Newspaper Photography?" (paper presented at the annual meeting of AEJMC, Norman, OK, Aug. 1986); and "Photography, Pixels, and New Technology: Is There a 'Paradigm Shift'?" (paper presented at the annual meeting of AEJMC, Washington, D.C., Aug. 1989). *See also,*

C.R. Harris, "Digitization and Manipulation of News Photographs," *Journal of Mass Media Ethics* (1991): 164-74.

[11] Wheeler and Gleason, *supra* note 1, pp. 6-7.

[12] *Ibid.*, p. 7.

[13] When *Spy* magazine concocted a composite image of Daryl Hannah's head on the body of a model dressed as Jackie Kennedy on the day President John Kennedy was shot, a reader wrote to complain that she was "appalled" that Hannah "would even consider doing such a cover." "Kennedy: The Torch Passes," *Spy* (Nov. 1993); "Letters" (Feb. 1994): 8. The practice of putting the image of a famous person's head on another body is becoming so common that it is now known as a "zipper head" in the industry. Jonathan Alter, "When Photographs Lie," *Newsweek* (July 30, 1990): 45.

[14] Some readers of *Conde Nast Traveler* criticized Mary Ellen Mark for digitally inserting the image of a castle into her photo of the Bombay, India, harbor when in fact the castle was a reflection in a window. "The Real India," *American Photo* (Nov./Dec. 1993): 28.

[15] Joseph P. Kahn, "When 1 Picture Tells 2 Stories," *The Boston Globe*, June 22, 1994, Living, p. 21.

[16] For example, in the *American Photo* readers poll, supra note 7, *Newsweek*'s Simpson cover was described as "unmanipulated."

[17] The manipulation was performed on a portrait of, ironically, the 1989 Pulitzer Prize winner in news photography. See S. Kramer, "The Case of the Missing Coke Can: Electronically Altered Photo Creates a Stir," *Editor and Publisher* (April 29, 1989): 18-19. In "Consuming Images," *The Public Mind: Image and Reality in America* (PBS video, 1989), Bill Moyers refers to this photo and asks, "If one purpose of journalism is to give us a picture of reality, is this journalism, once the picture is altered?"

[18] Regarding disclosure, New York University's Fred Ritchin has proposed a system of icons to identify both altered and unaltered photos — a boxed zero (indicating that the photo was made "with the lens"), and a boxed zero with a slash through it ("not a lens," indicating a manipulation). In the *American Photo* poll, *supra* note 7, readers were asked if they thought using the "not a lens" icon on manipulated photos is "a good idea." The tallies were: yes, 81; no, 9; not sure, 7; no comment, 6. John Long of the *Hartford Courant* is the former president of the National Press Photographers Association, chairman of its ethics committee, and drafter of its "statement of principle" regarding altered photos. He opposes the icon. In an October 1994 interview, he told me, "If [manipulating a photo] is wrong, just don't do it."

[19] See Naomi Wolf, *The Beauty Myth: How Images of Beauty Are Used Against Women* (New York: W. Morrow, 1991).

[20] This explanation was suggested by Technical Assistant Amy Barlow, and will be tested in an upcoming survey.

[21] D. Terry and D.L. Lasorsa, "Ethical Implications of Digital Imaging in Photojournalism" (paper presented at the annual meeting of AEJMC, Washington,

D.C., Aug. 1989); see M. O'Connor, "Photography 2001," *Photo District News, Midwestern Edition*, May 1988, p. 29.